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ABSTRACT

An introduction briefly summarizes the four previous conferences in this series, identifies trends in topics addressed, and introduces the 16 presented papers in this collection. The papers are as follows: (1) "Formative Evaluation and the New Technologies" (Marjorie Cambre); (2) "Formative Evaluation of Sesame Street Using Eye Movement Photography" (Barbara N. Flagg); (3) Implications of Uses and Gratifications Research for TV Production" (Guy Lometti, Maria Dandola, and Gene Cooper); (4) "Market Analysis and Strategic Planning at TVOntario" (Barry Green); (5) "Television, Children and Society: A Canadian Perspective" (D. J. Engel); (6) "Remembering the News: Influence of Graphic and Oral Reinforcement" (Robert Bernard and Gary Coldevin); (7) "Longitudinal Effects of Television in the North: A Cross-Cultural Comparison" (Gary Coldevin and Thomas Wilson); (8) "Impact of 'Shogun' on National Stereotyping among American Viewers of Japanese and Non-Japanese Ancestry" (Clayton J. Vollan); (9) "Television Viewing and Personality Needs of South African Adolescents" (D. P. Van Vuuren); (10) "The Influence of Camera Angles and Political Consistency on the Perception of a Party Speaker" (Hans Kepplinger and Wolfgang Donsbach); (11) "Health Education on Television: A Producer's Viewpoint" (Peter Riding); (12) "Tacit and Explicit Program Design: A Practitioner's Viewpoint" (Susan Skerry and Paul Morris); (13) "Developing Compatibility between Functions and Techniques in Medical Television Production" (Richard T. Hezel); (14) "Evaluation of a Mass Media-Enhanced Smoking Prevention and Cessation Program" (Brian R. Flay and others); (15) "Cancer Communications: Planning and Evaluation Issues for Programs in Rural Settings" (Richard Windsor); and (16) "Television and Ethics: The Subjectivity of Judgement" (G. H. Jamieson). Abstracts and references are provided for all of the papers, and a list of conference participants is appended. (JB)

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PROCEEDINGS OF THE

Fifth International Conference

On

Experimental Research in Televised Instruction

Memorial University of Newfoundland

June 28-30, 1982

Edited by

JON BAGGALEY with PATTI JANEGA

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Concordia University, Montreal

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INTRODUCTION

From 1978-82, a series of international conferences was held at Memorial University of Newfoundland on the subject of Experimental Research in Televised Instruction. The topic is one not normally covered at any length in other media conferences; most international meetings allocate one or two sessions to experimental research, at best. Researchers in the field - particularly those working on the effects of TV production techniques - commonly bemoan the fact; and TV producers rarely get to hear of the production guidelines frequently generated by such research.

The Newfoundland conferences were organized to redress this problem, and attracted a regular attendance by TV producers and researchers from a total of sixteen countries. The first two meetings were convened by Arthur Sullivan, Director of Memorial University's Extension Service, and the other three by Jon Baggaley, Coordinator of the University's Program Evaluation & Communication Research Unit. The 5th Conference was held in St. John's in June 1982. It was the largest - and in the event the last - meeting in the series, attended by delegates from Canada, China, Singapore, South Africa, the United Kingdom, U.S.A., and West Germany. As before, the focus of delegates' interest was on types of TV programming which educate or instruct in the broadest sense - in broadcast contexts as well as in the classroom. As always, the work reported in the Conference sessions stressed the audience impact of TV programming. The present volume contains the papers presented at the Conference by leading researchers and practitioners in this field.

In scanning the five sets of Proceedings in the series, one can detect several distinct developments and shifts of emphasis. The six papers in Volume 1 (1978) had set the general tone of the series by emphasizing research designed to give teachers and producers specific guidelines for using the techniques of educational television strategically and effectively. It was a highly practical type of research, which TV producers would have no trouble applying in their work. Volumes 2 and 3 (1979-80) contained twenty-two papers specifying the effects of television technique upon wide-ranging audiences - University students, normal and slow-learning children, and the mass audience of television news. The emphasis to this point was on attempts to define the effects of TV technique by traditional experimental methods, in which one or more variables are isolated and hypotheses about their audience effects are tested.

Isolated papers in Volumes 2 and 3 gave examples of a different type of study, aimed less at the determination of television's effects in general contexts than upon the effects of production technique in the context of specific programmes. This approach may be characterized as inductive, by which production effects

are inferred from analyses of specific programme examples, rather than the deductive approach of traditional experiments which attempt to generate production guidelines based on general hypotheses. The inductive approach was strongly evident in the work of the Children's Television Workshop, New York, represented at the 1979 and 1980 Conferences by Rodney Dennis and Keith Mielke. These researchers reported evaluation studies of 'Sesame Street' and '3-2-1-Contact', yielding findings which were in many cases sufficiently precise as to be applicable in the production of educational television generally. The pragmatic, inductive approach of CTW's formative evaluations had in itself yielded hypotheses for general testing: 'formative evaluation' studies were frequently satisfying the more rigorous requirements of scientific research.

This development was made possible in part at least by the advent of the new computer-based evaluation methodologies. The interest generated by these studies led to a greater emphasis upon formative research and evaluation at the fourth Conference in the series (1981). The ten papers in Volume 4 reported the implications of a rapidly expanding range of research and evaluation methods in areas as diverse as film studies, community development and TV election coverage. The present volume, relating to the fifth Conference held in 1982, consolidates these trends via a further sixteen papers.

The current collection begins with a discussion of the history and significance of formative evaluation studies by Marjorie CAMBRE. The use of eye-movement measurement techniques in formative research is then reported by Barbara FLAGG. (It should be noted that strict distinctions between the terms 'research' and 'evaluation' are not always observed by the different writers in the Volume, and will have to be clarified in the literature henceforward.) The implications of sociological marketing studies for TV producers, based on the 'uses and gratifications' approach to media analysis, are discussed by Guy LOMETTI and Barry GREEN.

Studies of television's effects on children, in Canadian and South African contexts respectively, are then discussed by Douglas ENGEL and Daniel van VUUREN. Clayton VOLLAN reports his study of audience reactions to the television dramatization 'Shogun'. A final paper on the inter-cultural effects of television - indicating the medium's impact on Inuit communities of Northern Canada - is provided by Gary COLDEVIN and Thomas WILSON.

Two papers on the impact of production technique in TV news follow. Robert BERNARD and Gary COLDEVIN describe factors relating to the instructional effectiveness of TV newscasts,

while Hans KEPPLINGER and Wolfgang DONSBACH give a follow-up to their 1981 report on the influence of camera technique in a TV election campaign.

The final set of papers reflects a particular theme at the 1982 conference - namely the increasing role of media research in health education. Practical perspectives in this regard are presented by producers Peter RIDING, and Susan SKERRY/Paul MORRIS; and research evidence for the techniques having particular value in televised health education is reviewed by Richard HEZEL. The design and evaluation of major cancer education campaigns in the United States are reported by Richard WINDSOR, and by a team of nine health educators led by Brian FLAY.

Further papers, concerning uses of media in rural health education (George FODOR), and perceptions of television by children (Ronald SLABY), may be sought from the authors.

It is fitting for us to remember, as in previous volumes, that research into the psychological and social impact of television is a two-edged sword. The potential for negative applications of research results is at least as great as the scope for their positive use. The ethical considerations attending media production and research are cogently pointed out in the closing paper by Harry JAMIESON, an architect of theoretical and practical sessions during the Conference series as a whole. I extend my particular thanks to Dr. Jamieson for having motivated the Conferences in more ways than one.

I extend my thanks also to Dr. Arthur Sullivan, whose move to assemble international researchers in this field led to the original meeting in 1978. I gratefully thank Drs. Pauline Jones and Garfield Fizzard for their support to the annual Conference during my time as its organizer from 1980-82. The smooth running of the 1982 Conference was due, as ever, to the great patience and efficiency of Conference Secretary Mrs. Gerri Barbour, and to colleagues Joan Sharpe and Paul Noseworthy. Grateful acknowledgements are due to Dr. Ian Rusted, Vice-President of Memorial University's Health Sciences and Professional Schools, for his opening address to the Conference delegates; to the session chairmen; and to Dr. Maxwell House and his colleagues of the University's Medical Faculty for their help in arranging conference facilities. For additional assistance and conference materials we thank MUN Comptroller's Office, Administrative Services, ETV Service, Extension Media Unit, Centre for Audio-Visual Education, and University Relations; also the Newfoundland & Labrador Department of Tourism, St. John's City Hall, Avalon Cablevision Ltd., and the Bank of Montreal. This and the previous Conferences were made possible by the generous support of the Social Sciences & Humanities Research Council of Canada.

For cover design and processing, I acknowledge Mary Townsend and the Printing Department of Concordia University, Montreal. My work as Editor of the 1982 Conference Proceedings has been delayed by my move to Concordia shortly after the Conference. Since then completion of the editing has been made possible by the extraordinary assistance of my colleagues Patti Janega and Aaron Brauer. Together we have discovered the marvels of modern word-processing, as presented to you in the pages that follow. As my co-editor, Patti Janega has rendered the typist and layout designer, as well as the typewriter, largely redundant. I am lastingly indebted to her, and wish her the best in her move to Europe the day after completing her work on this volume!

To all those who attended the five conferences and who made them convivial as well as stimulating, my thanks and respects.

JON BAGGALEY,

Department of Education.
Concordia University,
Montreal, Quebec.

October, 1984.

FORMATIVE EVALUATION AND THE NEW TECHNOLOGIES

M.A. Cambre
Maryland State Department of Education
Maryland

ABSTRACT

The practice of formative evaluation as a step on the design process of instructional media products is a surprisingly old phenomenon. There is evidence to show that formative evaluation dates back to the 1920's, when film and radio were first used for educational purposes. Developments in formative evaluation techniques have continued consistently to the present day.

Part I of this paper reviews the highlights of the history of formative evaluation of educational media, focusing on events and techniques that serve as prototypes for evaluation methodologies in current use. The historical perspective provides unique insights into ideological issues and methodological preferences. It serves as a meaningful backdrop against which current and future television evaluation practices can be reviewed and judged.

Part II discusses present trends in formative evaluation. Emphasis is on the potential effect on evaluation practices brought about by the new technologies, particularly interactive video tape and video disc.

This paper will be of interest to researchers, producers and educators involved in designing and producing educational materials.

INTRODUCTION

In a recent editorial in his Channels of Communication magazine, Les Brown (1982) reflected on a question posed by one of his graduate students. The question was this: "all this talk of a communications revolution -- is it really a revolution or just a figurative use of the word?" History will be the judge of that, of course, but I'm sure that each of us has formed an opinion. No doubt we each react to the reality and the promise of the new communications technologies with varying degrees of excitement and skepticism, with a healthy amount of concern, and certainly with the hope that, if it is a revolution we are in the midst of, we can influence its direction so that it works for the benefit and not the destruction of humankind. There is no question that the silicon chip and the new technologies it continues to spawn, present a major challenge to us a researchers, producers, and educational technologists. We are

witnesses at the marriage of two powerful technologies, video and computer, which form a third medium, the power of which we haven't begun to imagine. It is truly an exciting and an awesome time to be working in the field of educational television.

As I reflect on where we are now and where we might possibly be going, it occurs to me that perhaps we feel today, not unlike our counterparts in the first three decades of this century as the motion picture was becoming a household word. Let me reconstruct a scene from history for you. The year is 1920. The setting is a meeting of the newly formed Society for Visual Education. Board members are gathered to discuss the efforts of film producers to promote the use of motion pictures in schools. The editor of the Society's new journal notifies the group that complaints are pouring in from angry educators in progressive schools, who managed to purchase expensive projection equipment, only to find that there was very little material worth projecting. The Chairman of the Board speaks up to remind the group of its commitment:

> The rising generation must have its movies. We believe it is infinitely better for schools and community centers to show all that is possible of the less objectionable material now available, than to leave the theaters entirely alone to exercise their mighty influence upon the plastic minds and hearts of America's children. We cannot wait for the perfect educational films, which will surely come. The demand is here ahead of the supply. It must be met. When bread cannot be given to the hungry, even crackers are comforting and helpful. (Visual Education, vol. 1, no. 2, 1920, p.46).

The noted educator and psychologist L.L. Thurstone, who had a reputation for being highly critical of commercial attempts to prepare educational films, suggests the following:

> It is obvious that the development of motion pictures in education will depend on the combination of the talents of the expert in the subject matter to be taught, the expert photographer with experience in motion pictures, the scenario writer, the film laboratory and others. Possibly a professional pedagogue should be added to the staff to pass on the purely educational features of presentation. . . The first problem in the development of acceptable motion pictures for educational purposes is one of organization (Thurstone, 1920, p.24).

Laura Zirbes of Ohio State University, the only woman in the group, speaks out next:

> Investigation and experiment in the field of visual education have already produced a beneficially critical attitude on the part of those who have seen the results. The next step is the careful experimental evaluation of specific types of visual materials and techniques as means to the attainment of definable educational objectives (Zirbes, 1924, p.964).

Now, I've taken a little liberty with history in painting this scenario, but not much. The speaker's words that I read to you are taken directly from the pages of recorded time. I find them fascinating because they apply as much to us today as they did to the generation they were written for. We continue to find ourselves trying to keep up with technology hardware and adapting commercially successful media for educational use with less success than we would like. We still search for the optimal composition and configuration of the product development team, and above all, we still must fight for time and money to ensure that the products we put out, have been properly evaluated. The overall issue, of course, is quality control of educational software.

If it is a true technological revolution that we are in, I submit that we as researchers, producers, and educational technologists might affect its course, by joining forces and concentrating on this issue of quality control. History has a lot to teach us about how to proceed and, if I might, I'd like to review some of the major historical developments in formative evaluation that seem to have implications for us as we approach the new technologies (see Cambre, 1978; 1981). Then I'll describe briefly how the techniques I have highlighted might be applied in the design and evaluation of interactive video tape and video disc programs.

HISTORICAL OVERVIEW

Pre-Audits

We've already seen that the 1920's produced a call for quality control of educational media products, and that evaluation procedures were suggested to meet this need. During the 1930's, the concept of evaluation as a continuous process accompanying the development of educational products, appeared in professional publications. The most notable examples occurred in connection with educational radio productions. In a procedure they called a "pre-audit", the staff of radio station WBOE in Cleveland, Ohio, tried out proposed educational radio programs in classroom settings that represented the grade level, ability level, listening conditions, etc. for which the material was intended. Observations and conferencing procedures revealed potential weak spots and suggested necessary revisions. WBOE

personnel calculated that their average radio lesson presented during the 1938-1939 school year, required about twenty-seven and a half hours of preparation. Nearly a quarter of that time was allotted to tryout and revision. (Report of Radio Activities: WBOE, p. 24)

Outside education, marketing researchers for some time had been measuring the effectiveness of their products by crude methods of audience analysis before the program reached the public. In 1939, Coutant reported the use of a technique called "feature analysis of radio programs". It involved gathering sample audiences together at "parties" put on by radio program sponsors. The programs in question were presented by means of a "playback machine", and the party guests were asked to rate various features. The result was an "appeal profile" which suggested changes to be made in the program before it was aired. This seems to have served as a forerunner to the Program Analyzer and audience appeals profiles developed with scientific precision, during the 1940's and 1950's for radio and film evaluations.

Review By Expert Judgment

Review by expert judgment seems to have been the major formative evaluation technique used by educational film producers during the early days. There is some evidence to suggest that Thomas A. Edison used a systematic approach in the production of his instructional films, produced for school use between 1912 and 1914, including the use of content experts in writing scripts, the setting of goals for a target audience, and an evaluation-type testing of each film (Rogoff, 1979).

There are records of successes and failures as practitioners tried to follow Thurstone's advice and bring together teams of people with different expertise to produce educational materials. The most notable success was the "Conference Method" of film production, practiced by ERPI Classroom Films Inc., later acquired by the University of Chicago and subsumed under what we know today as Encyclopedia Britannica Films (Devereux, 1933). Scenarios for the ERPI (Educational Research Products Inc.) films were jointly prepared and approved by a scenario conference group, which included an educational research specialist, a subject matter expert, and a technical film expert. Once a scenario was thoroughly revised and finally approved, it became the basic working plan not to be altered by producers. Interventions in the form of expert review were scheduled at three stages of production; the film rushes, the rough cut, and the completed picture. A checklist was used to facilitate thoroughness and accuracy. The Eastman Kodak Corporation used a similar method to develop its educational films in the 1920's and 1930's (Finegan, 1927).

Theoretical Questions

The early 1940's witnessed the emergence in the literature of theoretical questions concerning the nature of evaluation and the appropriate methodologies to meet the needs of educational product developers (Cambre, 1978). The psychometrics movement, the applied research tradition in psychology, and the emergence of the field of mass communications, all contributed to the development of evaluation theory in the educational media context. One major issue that emerged was the subjective-objective nature of evaluation. Psychometricians came down solidly on the objective nature of data collection for evaluation purposes, principally through objective testing procedures. Those who favored the mass communications orientation accepted more subjective, qualitative techniques. Psychologists placed evaluation in the applied research context and allowed for a combination of objective and subjective data collection methods. All three theoretical orientations, but particularly that of mass communications, shifted the emphasis from the product itself, to the effects of the product itself, to the effects of the product on the intended audience.

Program Analyzer Devices

Several significant methodological developments occurred during this time, not the least of which was the Program Analyzer, developed in 1940 by Paul Lazarsfeld of Columbia University and Frank Stanton of the Columbia Broadcasting System. This was the first major mechanical device to influence educational media evaluation. Basically, the Program Analyzer was a polygraph machine that recorded audience responses at the touch of a button. It allowed for simultaneous and continuous data collection of from 10 to several hundred respondents during the course of one program. When used in conjunction with questionnaires and interviews, the device allowed producers to analyze audience reactions to their product on a second-to-second basis. Data collected in this fashion were typically generated in the form of a rating profile - a graphic representation of the continuous reactions of the audience to the program as it proceeds. Profiles were based on a statement of like/dislike, learning/not learning, or some variation thereof.

The Program Analyzer received a large amount of attention from academic, military, and commercial researchers alike in the 1940's and 1950's. It gave rise to a number of subsequent mechanisms to suit different research and evaluation needs, including the Cirlin Reactograph in 1947 (Cirlin & Peterman, 1947), Carpenter's Film Analyzer (Carpenter, Eggleton, John & Cannon, 1950a, 1950b) and, of course, the PEAC model developed in the 1970's by Nickerson, Mielke and others.

There have been several studies through the years to validate the use of program analyzer devices for formative evaluation purposes. In 1944, Sturmthal and Curtis used a program analyzer

to study two films, sequence-by-sequence, in terms of likes and dislikes, with about 200 subjects. To check their findings they used self-administered questionnaires and interview techniques. They reported that certain predictions could be made after analyzing only one-third of the script with this methodology. Loren C. Twyford (1951a, 1951b, 1954) conducted a series of validation studies using the Film Analyzer and its companion device, the "Classroom Communicator", which allowed for registering and tallying instant responses. Twyford compared the effectiveness of six different rating scales for measuring learning: (1) subjective indication of learning - "I am learning", (2) like/dislike (3) prediction of learning by classmates, (4) clarity, (5) goodness and (6) terminal knowledge. Of these, the subjective indication of learning which yields an audience profile of "I am learning" on a five-point rating scale, was the most effective. Twyford established with a certain degree of rigor that:

1. Learning may be measured by means of a subjective rating profile with a degree of accuracy comparable to that obtained by testing;
2. A target audience of from 10 to 40 people can provide the necessary data to evaluate a film effectively;
3. Profiles obtained from the exact audience the film is designed to teach will have the most value for producers;
4. Repeated use of a Program Analyzer technique during the production of a film results in a more effective instructional product;
5. If the rating profile is interpreted in conjunction with respondent interviews, it is possible to determine why certain segments succeeded or failed more than others, and revise accordingly (Twyford, 1954).

Use of Prototypes

Throughout the 1940's and 1950's researchers advocated and conducted formative evaluation using prototypes of one kind or another (see Cambre, 1978). Apart from the radio transcript evaluations mentioned earlier, one of the earliest examples in the literature of the use of prototypes appeared in 1946, when a researcher named Jones showed that a homemade filmstrip in a relatively crude form was a useful teaching tool. Jones (1946) suggested that one of the most useful outcomes of his experiment was "the practical experience gained, which would lead to improvement in later versions of the film". Extensive validation studies were conducted under the direction of A.A. Lumsdaine, at the Human Resources Laboratories of the U.S. Air Force, during the late 1940's and early 50's. In these studies, Zuckerman (1954) found that a 16 minute black and white storyboard filmstrip, with narration, could serve as an accurate prediction of what people would learn from a completed training

film. There have been scattered attempts to validate the method under other circumstances, and numerous instances of its use, but much more work still needs to be done in this area for reasons I shall discuss in a few minutes.

Learner Verification Methods

The last types of formative evaluation activities that I would like to mention from an historical viewpoint, are those that fall under the rubric of learner verification. These methods are based on the concept of repeated tryout and revision, with feedback from individual learners or small groups of learners, playing a central role in the shaping of the materials being designed. For the most part, this type of formative evaluation was perfected during the programmed instruction movement of the 1960's and it applies most comfortably to that kind of individualized technology. There are instances, however, of learner verification techniques in the development of film and television programs. One outstanding example occurred in the late 40's and 50's at the Tavistock clinic in Britain. The procedure involved reviewing three existing safety films with children, by observing their behavior while viewing the films, then using group discussion, role playing, story completion and play activities, to determine reactions in order to develop a new film more oriented to the needs and views of the children. A team composed of social and educational psychologists, the film director, and the script writer, used observation, role playing, written and oral story completion, and interviews with children, to determine the direction they would take with the new film. Treatments were prepared on the basis of the information gathered, and a script was written and read to children in narrative form. Again, the procedures of role playing, discussion, essays and interviews were used to determine student reactions, and the script was revised accordingly (Tavistock Clinic, 1950).

THE NEW TECHNOLOGIES

In this brief overview of formative evaluation through the years, I have isolated 5 distinct methodologies: 1) pre-audits, 2) review by expert judgment, 3) program analyzer devices, 4) use of prototypes, and 5) learner verification methods. The complexity of the new interactive technologies suggests that most, if not all of these methodologies would be useful in planning a formative evaluation program for instructional media of the future. Interactive videodisc, the most sophisticated visual technology on the immediate horizon for school use, is at once the most complex, expensive and instructionally promising medium that we are likely to be working with in the next few decades. Designing and producing materials for videodisc, and for interactive video tape as well, requires the expertise of a large number of diverse talents. In addition, it requires a

rethinking of old patterns of design and production (that we have grown accustomed to and are quite comfortable with) in traditional television instruction. Those who are pioneering the development of videodisc software warn us of the technical and pedagogical challenges at every turn. I mention this not by way of discouragement, but give reinforcement and added impetus to conduct formative evaluation during the course of developing new technology materials. Much to my amazement and dismay, far too little is being done in this area at the present time. Let me briefly suggest to you how each of the five techniques I have isolated from history might serve in the evaluation of new technologies.

The concept of pre-auditing (or pre-viewing in the case of video) is essential but minimal, when it is limited to evaluation of the final product alone. It is effective to the degree that time and money permit changes when warranted, but only frustrating when they do not. Pre-viewing for evaluation purposes must be carefully controlled so that results can be addressed in a meaningful way. Pre-viewing of a completed videodisc is a useful evaluation step if other formative evaluation has preceded it and if some adjustments in the program can still be made if needed.

Review by expert judgment is the most universally used type of formative evaluation, possibly because it usually consumes fewest resources. When limited to the expert judgment of the people involved in designing and producing the product, this technique can be very short-sighted; but, when an appropriate mixture of outside experts is asked to review at various stages of product development, this process can be invaluable. This type of evaluation, combined with one or two others, would form a very solid evaluation plan for designing new technologies. Experts in computer assisted learning in video production, in instructional design, and in the content area in question, would form an ideal expert review panel for interactive video products. They would be used to greatest advantage as an advisory board before design, as script reviewers and as prototype product reviewers while changes can still be made.

The program analyzer technique presents an especially interesting possibility for interactive video designers and evaluators, as it might well be integrated into the test versions of the product itself. Instant appeal ratings could be obtained after every segment of an interactive program by requiring the user to respond to the rating scale before moving on to the next segment. Segment-by-segment instructional effectiveness readings could be obtained also, provided the integrity of the program is not disturbed.

Like all formative evaluation methodologies, the program analyzer technique is most useful when it is applied to a

product that can still be revised. In the case of videodisc, this means that a prototype version of the program must precede the mastering of the disc. Prototype evaluation is probably the most controversial issue faced by new technologies designers, many of whom insist that there is no way to create a prototype videodisc program. In my opinion, this is the most important issue facing researchers and evaluators today. Validation studies of the kind conducted by Zuckerman in the 50's, are sorely needed to determine whether and how interactive video tape or some other configuration of media can be used as a simulation of a videodisc program. Without this precaution, we are inevitably going to see a disappointing lack of quality control in the courseware for this exciting new technology, and the mistakes of history will be revisited.

Finally, learner verification models of formative evaluation show the most promise for insuring quality control of the new instructional materials. Involving the learner in the development of the materials from the earliest stages, then evaluating each segment with individual learners as the program moves along in a succession of tryout and revision procedures, is a time consuming but highly effective methodology. Let me give you a concrete and very simple example of what I mean. Figure 1 is a flowchart for one segment of an interactive video tape program. You'll notice that each response to the initial question page, branches the student in a different direction, thereby illustrating the optimal use of a branching question.

The most common approach to designing such a question is the 'seat of the pants' technique, in which the designer makes an educated guess about how a learner might answer the question and what type of remediation would be most helpful. The learner verification approach to this design would be to allow a number of individual learners to work with the initial question, observe the most common mistakes and the type and amount of remediation necessary. Careful development along those lines will allow the designer to address the needs of learners of varying ability and skill levels, one of the most attractive features of interactive video technology. Subsequent tryouts and revisions in the context of the entire program would produce products of unquestionable teaching value.

There are many more aspects of formative evaluation that have not been mentioned here for lack of time; however, if I leave you with one thought from this brief overview, it is that formative evaluation is a critical element in the design process of educational materials. If we are to effect a positive revolution in educational technology, this seems to be an area where the impact would be significant. Would it not be marvellous if we could reverse the trends in history and for once, produce a new type of educational software that reflects the highest kind of quality control!

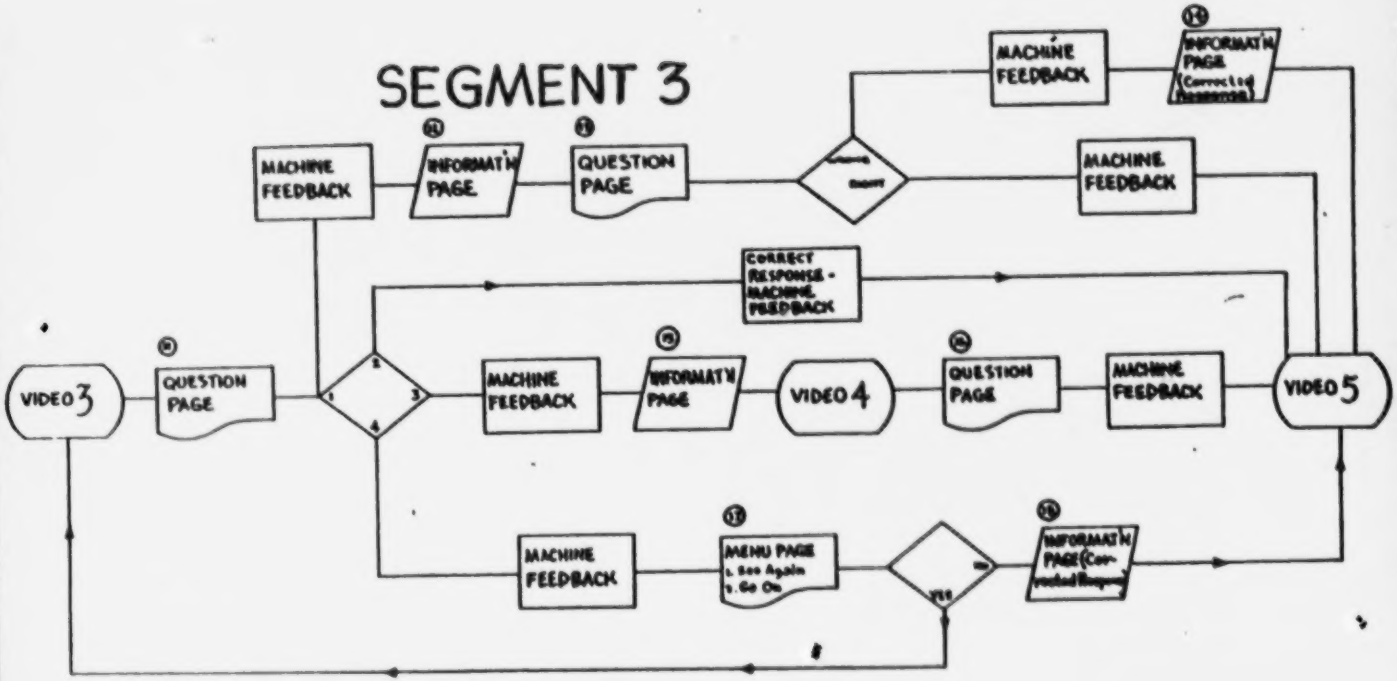

FIGURE 1 Flowchart for an interactive videotape program segment

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At the time of the 1982 Conference, Dr. Marjorie Cambre was an instructional designer in the Maryland Instructional Television at the Maryland State Department of Education. She is now a Professor of Education at Ohio State University, Columbus, Ohio.

FORMATIVE EVALUATION OF SESAME STREET USING EYE MOVEMENT PHOTOGRAPHY

Barbara N. Flagg
Harvard University
Cambridge, Massachusetts

ABSTRACT

To insure effective learning from televised presentations, producers must not only attract and maintain attention to the program, but they must also direct the viewer's attention to those elements of the visual display which are educationally important. To accomplish the latter, producers need detailed and accurate information about program viewing patterns. Recording of the viewer's eye movements provides unique information about the actual distribution of the viewer's visual attention while he or she is watching an educational program. Such research data can help program designers manipulate production features to benefit much larger distant audiences from whom actual feedback cannot be received. This paper reports on a formative research study of preschool children's viewing patterns in response to selected SESAME STREET segments. The study employed eye movement photography to evaluate the effectiveness of design formats, in directing children's visual attention to the elements of the televised display relevant to the educational goal.

INTRODUCTION

Blending entertainment and instruction in children's educational programming is a difficult assignment for producers. An educational program for preschoolers must entertain in order to attract and maintain viewer attention, and at the same time the format must direct attention to instructionally relevant elements.

Consider the following production problem. The program goal is to teach the child to recognize and read a particular word; on the screen are the printed word and alive or animated character. The child has a limited amount of time and processing space to take them in. What will the viewer attend to? How can the producer insure that the printed word will be selected and processed, which is the beginning of learning to recognize a word? To investigate these questions, we need a method that can measure a viewer's continuously changing perceptual responses to the immediate visual world of the television program. The method must provide information on what specific program format variables direct and influence the viewer's attention within a televised display. Recording of the viewer's eye movement

patterns provides a unique opportunity to investigate the actual distribution of the viewer's attention while s/he is watching.

Since we cannot see and process all the information presented on a television screen at one time, we must move our eyes around the screen in order to select the visual information. To achieve greatest visual acuity, images must be focused on a small region of the eye called the fovea, which is densely packed with photoreceptors. Only two degrees of the visual field is focused on the fovea at one time; as an approximation, if you sit five feet away from the TV screen, only a two-inch circle of the video image is focused on your fovea at one instant. You 'see' the rest of the TV screen less clearly through peripheral vision, but you must move your eyes in order to focus clearly another part of the visual display on the foveal area. When the eyes stop and a new image falls on the fovea, we say the eyes are 'fixated'. During a fixation, visual information is acquired for processing. The very rapid eye movements between fixations are called 'saccades' and virtually no visual information is taken in during the saccade (Volkman, 1976).

The pattern of fixations and saccades in response to any visual display is determined by the visual stimulus, as well as by the perceptual and cognitive processes of the viewer. Eye movement data provide objective continuous feedback on whether certain instructional visual elements are scanned and which aspects of the display are most salient to the child viewer. While visual attention alone is not sufficient to guarantee comprehension or even recall of visual information, fixation of instructionally relevant elements is certainly a necessary part of the learning process. The producer should be conscious of manipulating design variables in order to optimize attention to goal related elements, and analysis of viewing pattern data can provide empirical information to help guide the producer's intuitions about an audience's response. Eye movement analysis can be a powerful tool for formative evaluation of visual stimuli. However, it should be pointed out that we are dealing with only one aspect of the televised presentation -- the visual display -- and with only one response mode of the viewer.

This paper presents a formative evaluation of five SESAME STREET pre-reading segments utilizing eye movement photography. The goal was to assess which format variables were most and least effective in directing the pre-school child's attention to the instructional elements in televised segments.

METHOD

Subjects

Twenty-one children from the South Boston Head Start program

volunteered to participate. These 4 and 5 year-olds were from ethnically mixed, low income families, representative of SESAME STREET's stated target audience.

Stimulus

The television stimulus consisted of 19 SESAME STREET pre-reading and pre-science segments. The stimulus tape was divided into two 15-minute shows in order to limit continuous viewing time in the eye movement recording situation. Before each show, the child watched a 3-minute specially designed animated video-tape, during which time the recording equipment was calibrated.

The 5 of the 19 segments to be discussed in detail in this paper focus on a single pre-reading goal, that of verbal/visual blending. The segments employ Muppet characters to teach that written words are made up of letters which represent distinct speech sounds, and that the reader blends these sounds together to produce a comprehensible word. By keeping the content goal of verbal/visual blending common across all five segments, we hoped to allow variations, due to format differences, to emerge more clearly.

In the HUG segment, a female Muppet enters and notices the printed word 'hug' in center screen. She stands behind each letter and she carefully sounds it out, trying to discover what the word is. She repeats the letter sounds separately several times, each time moving from the viewer's left to right, so that she is behind the appropriate printed letter. Finally, she says the word 'hug', without separation of the letter sounds. Meanwhile, the Muppet Herry Monster enters and stands behind her. He repeats the word 'hug' after her, again without separation. The segment ends with Herry Monster hugging the pleased little girl Muppet.

In the segment, SAME SOUND BROWN, the Muppet SAME SOUND BROWN helps another Muppet to sound out the words 'man' and 'fun', which are printed on a blackboard behind the two Muppets. The dialogue is carried out in singing verse. First, the camera zooms in on Same Sound Brown, who stands in front of and below the word 'man'. Explaining how to sound out words, Brown points to and moves his head beside each letter of the word 'man' as he makes the appropriate speech sound. He repeats his movements and the sounds over again, until he says the whole word several times without separation. Next, the camera focuses on the second Muppet, who stands in front of and below the word 'fun'. He emulates Same Sound Brown's method of sounding and blending letters, now using the letters in the word 'fun'. At the end he reads the word 'fun' without separation of the sounds.

The I LOVE YOU segment begins with Susan asking Oscar if he has seen a note in the trash from her husband, Gordon. Oscar finds two halves of a note with the letters 'I L' on one half and 'OVE

YOU' on the other. The words are positioned vertically one above the other on the paper. As the two halves are displayed together, Susan coaches Oscar in the reading of the words, particularly blending the torn word 'LOVE'. The physical juxtaposition of the torn pieces is, simultaneous with oral blending, as Oscar repeats the sounds of the letters 'I LOVE YOU', bobbing his head slightly from the viewer's left to right, eventually verbalizing the complete phrase.

The CON MAN opens showing Big Bird mopping up his floor. A con man Muppet appears and places on a shipping crate a cutout letter 'M' which Big Bird discovers. The con man then tries to sell Big Bird some 'M-attachments' for his newly-found letter 'M'. With each attachment, '-OP' '-UG' and '-UD', Big Bird and the con man sound out the letter 'M', blending it with the various attachments, which are similarly sounded out. As the letters are sounded, the con man moves from the viewer's left to right orouching behind the initial two letters. After the whole word is said without separation, Big Bird picks up an object representing the printed word; for example, as 'MOP' is said, Big Bird picks up the mop. (For 'MUD', there is no corresponding visual counterpart). Big Bird decides he does not want to buy any 'M-attachments' and walks off with his letter 'M'. Whereupon, the con man left with all of his attachments, is joined by a second con man who tries to sell the first a new letter 'M'.

In the fifth segment, OSCAR'S BLENDING, Oscar the Grouch announces to Crummy that it is time for 'Breakable Words', which he explains is a game where you break up words after putting them together. Oscar begins by calling for the initial letter, a printed 'c', which appears on the left lower screen below the two Muppets. Oscar tells Crummy that 'cuh' is the sound for the 'c'. The letters 'at' appear from the right side and Crummy verbalizes the 'at' sound. Oscar repeats the 'c' sound which is followed by Crummy repeating the 'at' sound. The pace increases as Oscar and Crummy blend the two sounds together until Crummy says the word 'cat' without separation. As the Muppets verbally blend, the letters move together visually at the bottom of the screen. Oscar and Crummy repeat alternately the word 'cat' a few more times; then to Crummy's count of three, the word drops from sight, followed by a crashing sound. Oscar and Crummy then repeat the process with the word 'bat'.

Apparatus

The SESAME STREET stimulus was shown via video cassette on a 17-inch (43cm) color television monitor, placed approximately .91 m away from the child's eyes and slightly above eye level. A Gulf & Western Eye-View Monitor (Model 1994), employing the pupil center/corneal reflection technique, recorded the child's eye movements with an infrared light camera, which stands about 30 cm away from the viewer's left eye and out of his direct field

of view. In order to accurately record eye movements, the child's eye must remain within the viewing range of the television camera. Seated in a comfortable adjustable chair, the child is aided in sitting still by a padded headrest which allows the head to move within a space approximately 13 cm square. Most children have no difficulty sitting relatively quietly while viewing SESAME STREET; at most, 3% of the total data are eliminated due to movement that brings the child's eyes outside the viewing range of the recording camera.

The recording camera produces a data videotape showing the SESAME STREET stimulus with the viewer's eye movement path represented by a moving crosshairs superimposed on the image. The intersection of the crosshairs indicates the child's point-of-regard.

Procedure

Each child was accompanied to our viewing room at Harvard by a parent who remained in the room while the child watched television. The child was asked to watch the program just as he or she would at home. Although the viewing was done in a laboratory setting, viewing conditions were made as natural as possible.

Analysis of Eye Movement Responses

The five visual/verbal blending segments were analyzed with two questions in mind: (a) Does the format encourage the viewer to attend to the print? and (b) Does the format direct the viewer to sequence visually from left to right over the print?

Analysis of the eye movement data videotapes was done manually by three experimenters, at slow motion playback speeds, determining where the viewer fixated and how often. When print was visible on screen, it was determined how often each child fixated on each letter and each non-print visual element in the scene, as well as how often each child showed sequencing eye movements from left to right across the letters of the words. Manual scoring precluded the calculation of fixation duration as a dependent variable; however, other research employing computer analysis of preschooler's viewing SESAME STREET, has found that fixation duration is highly correlated with fixation frequency (Flagg, 1977).

Although manual analysis is not as accurate as computer analysis, it does allow the researchers to expose themselves to the richness of the data, which is essential for effective formative research. Scoring reliability was determined by having three experimenters score one child's data independently and then comparing the resulting percentages of fixations on different areas of the scenes. Agreement on segment scoring averaged 86%; this is typical of manual scoring reliability.

RESULTS

In the HUG segment, the visually simple format encouraging fixations on the printed word 'hug', 76% of all the children's fixations fell on the printed area (see Table 1). The Muppet's movement behind the letters directed attention across the span of the word, with the result that 83% of the children evidenced sequencing eye movements, that is, fixations and saccades traversing from left to right over the print in a blending fashion.

TABLE 1

Eye movement data for SESAME STREET pre-reading segments

SESAME STREET segments	Percent of total fixations falling on print	Percent of preschoolers demonstrating left to right sequencing patterns across the print
HUG	76%	53%
SAME SOUND BROWN	62%	95%
I LOVE YOU	68%	50%
CON MAN	59%	50%
OSCAR'S BLENDING	35%	0%

In SAME SOUND BROWN, the Muppet's hand and head activity directed viewer's attention to the print area 62% of the time. Sequencing eye movements from left to right across the print were produced by 95% of the children.

The torn note in the I LOVE YOU segment received 68% of all fixations, while the words were present on screen. Only 50% of the preschoolers showed sequencing from left to right across the blended letters; but all of the children showed sequences of eye movements travelling up and down among the three vertically positioned words.

The printed words of the CON MAN segment elicited less attention, with 59% of the total fixations falling on the print. Only 50% of the preschoolers showed visual sequencing, following the con man's movements across the letters. In addition, 61% of the viewers focused on objects representing the words (i.e., mop

and/or mug), when they were displayed as instances of the words.

In OSCAR'S BLENDING, only 35% of the total fixations fell on the letters and words. The eye movement data reveal that this segment evoked no left-right sequencing instances. Typically, a child would scan from the letter 'c' up to Oscar to Crummy and down to the phonogram 'at'. The pattern of fixations, from print to speaker to second speaker to print, breaks up any left to right visual blending sequence.

DISCUSSION

The SESAME STREET segments evaluated here use Muppets in a variety of formats to model visual/verbal blending behavior. In HUG and CON MAN, the Muppet crouches behind each letter and pronounces the corresponding sound. The Muppet moves bodily from the viewer's left to right in time with the verbal blending. In SAME SOUND BROWN, the left to right sequencing is reinforced by hand and head movements of the Muppets directly underneath the letters. In I LOVE YOU, Susan holds together two pieces of a torn note to complete the word 'LOVE', while Oscar sounds out 'LOVE' bobbing his head from the viewer's left to right. In OSCAR'S BLENDING, the letter parts move together from opposite sides of the lower screen as Oscar and Crummy alternate in saying their part of the word.

Since we are not dealing with a controlled experimental stimulus, we cannot specify what particular format features cause differences in eye movement behavior. However, as formative evaluators, we need to examine the subtle production variations among these formats, to speculate as to which design variables might relate to the different viewing patterns by the preschoolers.

Although HUG and CON MAN would appear to use the same general production format to encourage blending, the eye movement results reveal that the print areas in HUG receive much more attention and many more sequencing eye movements. The little girl Muppet's movements and verbalizations in HUG are distinct, as she proceeds from letter to letter. The Muppet's movements behind the letters draw attention to each of the letters in turn; her direction from left to right encourages the viewer to scan along th word in a reading fashion. There is also very little instructionally irrelevant material to attract attention until the segment's end, when the entertaining punch line with Herry Monster occurs. Therefore, the word 'hug' in this format receives a very high percentage of viewers' attention, and a large percentage of viewers demonstrate sequencing eye movement patterns.

In contrast, the CON MAN segment is more complicated visually

and faster paced than HUG; CON MAN has more non-print elements to look at (e.g., the table; background objects; Big Bird's beak) and visual attention to the print is lower. Moreover, the con man's movements behind the print are not discrete but are smooth and not extended across the entire word. Sequencing eye movements are not elicited effectively and do not always include fixations on the ending consonant.

In HUG and CON MAN, the Muppet is positioned behind the word. In SAME SOUND BROWN, the Muppets stand underneath the words. The BROWN format attracts the children's attention to the print less effectively than the HUG format, probably because the male Muppets' singing and dancing activities distract from the words, almost as much as their pointing encourages print fixations. At times, their moving heads obscured the letters they were blending. Yet the use of their hands and heads to point sequentially and discretely to individual letters as each was sounded, proved quite successful, since 93% of the children made appropriate left to right fixations when they did look at the words. The left to right action also seemed to be enhanced by the rhythm, rhyme, and beat of the song. So the format of SAME SOUND BROWN encouraged more children to produce left-right sequencing patterns than the HUG format, but actually elicited a lower percentage of fixations on the printed words.

The printed message in I LOVE YOU, received slightly higher attention than the words in SAME SOUND BROWN, possibly as a result of numerous closeups of the note; however, only half of the viewers showed sequencing, since there was no visual support for the blending activity other than Oscar ineffectually moving his head. The vertical placement of the words, one above the othr, encouraged vertical scanning of the three words as opposed to left-right reading patterns on the word L-OVE.

The Muppets' appeal in OSCAR'S BLENDING clearly distracts attention from the print, which is presented below them on the screen. Only the slight movement of the letters toward each other serves to attract the viewers' attention to the print and this tendency is counteracted by the Muppets' irrelevant movements above the print. This blending format elicited no sequencing eye movements, and thus fails to facilitate the instructional goal of verbal/visual blending.

Let us return now to the two questions we kept in mind while analyzing the eye movement data: (a) Does the format encourage the viewer to attend to the print? and (b) Does the format encourage the viewer to sequence visually from left to right over the print? As we can see in Table 1, the left column of percentages deals with the first question above and the right column, the second question. Four of the segments seem to encourage attention to print about equally (HUG, 76%; I LOVE YOU, 68%; SAME SOUND BROWN, 62%; CON MAN, 59%), while the

OSCAR'S BLENDING segment (35%), is outstanding in its lack of attention eliciting potential. How is the latter format different from the former four so that it fails to direct attention to the print? I believe that the crucial difference for OSCAR'S BLENDING lies in the placement of the print in the bottom part of the screen, as opposed to the center of the screen which is characteristic of the other four pre-reading segments. Central placement of educational materials has been found in previous eye movement research to be the preferred placement for non-blending SESAME STREET segments also (Flagg, Allen, Geer, & Scinto, 1976).

If the first four segments are similar, in that they all present print in a central position, then what visual production feature(s) might relate to their discrepant abilities to elicit print fixations? Why does the HUG format direct 76% of the visual attention to the print and, CON MAN only 59%? An analysis of what is on-screen simultaneously with the print for each segment, suggests that the availability of non-print visual elements to look at could predict the ranking of these four segments. Very little non-print material is present in HUG as the word is shown with one Muppet, who is joined later by a second Muppet. When the print is on-screen in the I LOVE YOU segment, only parts of Oscar's face, Susan's face and hand appear simultaneously. SAME SOUND BROWN displays words next to a very bouncy active Muppet (or two), and CON MAN presents each word in a scene that also displays the con man Muppet, parts of Big Bird, a mop handle, and a shipping crate. The formats which present more non-print material appear to have less success in directing the viewer's attention to the print areas. Indeed, in a study of THE ELECTRIC COMPANY with second graders, we found similar results; the treatment of non-print elements accounted for variations in the ability of segment formats to direct attention to print (Flagg & Fenton, 1979).

Let us finally consider the question of how well the formats encourage the left-right sequencing of visual attention. On examination of the right-hand column of Table 1, we find the formats fall into three groups: (1) SAME SOUND BROWN, 95%; HUG, 83%; (2) I LOVE YOU, 50%; CON MAN, 50%; (3) OSCAR'S BLENDING , 0%. I believe that the production factor that discriminates between these three groups is the method used to model and reinforce the seqencing behavior. In HUG and SAME SOUND BROWN, the Muppets' left-right movements are discrete, pausing behind or under each of the three letters in turn, before proceeding to a more entertaining activity of hugging or singing. In I LOVE YOU and CON MAN, Oscar ineffectually bobs his head and the con man moves smoothly behind only two of the three letters. Finally, in OSCAR'S BLENDING, there is no effective supportive sequencing technique since the slightly moving letters cannot compete with Oscar and Crummy's activities.

CONCLUSIONS

One of the goals of a producer of educational television is to design segments which will continue to entertain over repeated exposures and simultaneously will encourage attention to the instructional elements of the display (in this case, the blending sequence of letters into words). The use of eye movement photography can help in designing such effective entertaining and educational segments, by giving informative feedback to producers on exactly what their audience is attending to within a television segment. Although our study did not involve controlled variations of program formats, as formative researchers we speculated as to what format variables relate to the direction of viewer's attention within the televised display. Such speculations can be developed later into hypotheses to be tested in rigorous experimental designs. Our evaluation of five Muppet segments on visual/verbal blending, suggested that central screen placement of print and treatment of non-print material, determined the extent to which the viewer attended to the words presented. Also, the most effective format for encouraging left to right fixations over a word associated the print with directional activity by the Muppets (i.e., body, hand, or head movements discretely moving behind or below the appropriate letters).

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Dr. Barbara Flagg is Assistant Professor in the Center for Research in Children's Television, Laboratory of Human Development, at Harvard University, Cambridge, Massachusetts.

IMPLICATIONS OF USES AND GRATIFICATIONS RESEARCH FOR TV PRODUCTION

Guy Lometti, Maria Dandola & Gene Cooper
American Broadcasting Companies, Inc.
New York

ABSTRACT

This paper examines the gratifications viewers derive from television. The review of the literature considers the uses and gratifications approach to mass communication research. Two national surveys were conducted in which 18 year-old and older respondents were asked why they watched television in general and (in the second study) why they watched soap operas in particular. Results indicated that ten dimensions of gratifications could be measured reliably in a national probability sample. These gratifications were developed from past research and included: serveillance; learning; entertainment; relaxation; excitement; escape; parasocial interaction; vicarious experience; understand others; and understand self. However, only surveillance, learning, entertainment and relaxation were the primary gratifications reported by the population. Practical guidelines are provided for producers in applying gratifications research to television programming.

INTRODUCTION

Today, uses and gratifications research studies abound in the scientific literature. The implications of these scholarly pursuits for the television industry have largely been ignored. This is in part due to problems inherent in this approach to mass communication research. This paper addresses some of these problems, points to ways of dealing with them and offers some suggestions for the producers of televised content regarding the application of uses and gratifications research to their craft.

The uses and gratifications approach to communication research has its roots in the functional analysis of Merton (1957) and the early audience research efforts done by Lazarsfeld and Stanton (1942, 1944, 1949). These researchers saw audiences as active, possessing particular needs, and knowingly selecting the communication channels and messages most likely to fulfill their needs. Consequently, investigations concentrated on the functions served by the communication channels and their content. More current work by Blumler and McQuail (1969), McLeod and Becker (1974), Katz, Blumler and Gurevitch (1973), and Kline, Miller and Morrison (1974) has helped to renew interest in gratifications research, by suggesting that the

gratifications received from mass communication interact with media exposure to influence effects. The expectation is that the strength of one's needs will ultimately determine the impact of a medium. Here, direct effects models of mass media are rejected because active audiences are assumed to have a part in linking exposure and effect.

Embodied in the uses and gratifications approach are a number of assumptions. First, people are assumed to have needs. These needs are not necessarily analogous to innate biological needs such as the need to satisfy hunger, but are social or psychological in nature -- a lower-level need. The approach taken in the present research is similar to that of McGuire (1974). He proposed studying individual motivation and its relationship to use of the media. These motives or needs generate expectations of fulfillment by various sources. That is, we are motivated by the expectation that our need will be fulfilled. These expectations then lead to differential patterns of media use and other activities. Those behaviors result in need gratification and perhaps other unintended effects. As you can see, these assumptions describe a model of human behavior. Thus an active communication audience is assumed to exist. Behavior is goal directed.

A second assumption deals with an empirical issue. Survey methods are the predominant form of gratifications research. Recently, Lometti (1979) demonstrated that the experimental method is inappropriate for most uses and gratifications research. Almost all of the studies to date have relied on the respondents' abilities to be aware of needs and report them. Typically, respondents are asked what gratifications they receive, what gratifications they seek, why they use media, or what functions are served by various media and their content.

Finally, the satisfaction of needs by the media is seen as one way among many for such gratification to occur. Functional alternatives are assumed to exist. For example, someone interested in escaping from the problems of the day might watch television, read a book, or go to the movies.

Typologies of Motives

A number of reasons why people use the media have been reported in the literature. They run from Stephenson's (1967) unidimensional play theory of media exposure, to a multiple-level multidimensional gratification scheme proposed by Katz, Gurevitch, and Haas (1973). The latter scheme is based on the extent to which individuals attempt to connect or disconnect themselves with other people. Instrumental, affective, and integrative connections are suggested by these authors.

McQuail, Blumler, and Brown (1972) proposed a typology which included diversion, personal relationships, personal identity

and surveillance. McLeod and Becker (1974) found seven dimensions, which they labeled surveillance, excitement, reinforcement, guidance, anticipated communication, relaxation, and alienation. Atkin (1973) proposed four dimensions -- surveillance, guidance, performance, and reinforcement -- and found post hoc support for each in secondary analyses of 14 studies. Greenberg (1974) found seven dimensions in a study of English school children. They were learning, habit, arousal, companionship, forgetting, relaxation, and passing time. Lometti, Reeves and Bybee (1977) reported three dimensions: surveillance/entertainment; affective guidance; and behavioral guidance. Rubin (1981) observed nine dimensions which he labeled: pass time/habit, companionship, arousal, program content, relaxation, information, escape, entertainment, and social interaction.

These reported reasons why people use the media vary in number and kind, because the investigations focused on reasons (a) derived from a particular medium, a particular content, or a particular content characteristically associated with one medium (e.g., television vs. politics vs. television quiz programs); (b) reported by individuals from different cultures (e.g., Israel vs. United States); (c) obtained from small, nonrepresentative samples; (d) measured in different ways (e.g., inferred from locator variables like age vs. self-reports); and/or (e) analysed with different statistical methods (e.g. factor analysis, metric mulitdimensional scaling or smallest space analysis).

Considering the focus of these studies, the findings are not overly consistent. The number and content of these dimensions argue for an attempt at simplification and validation of past research. If we cannot agree on why people watch television, how can we produce programs geared to the desires of the audience?

Criticism of Uses and Gratifications Research

While the number of uses and gratifications studies attests to the fact that the approach is alive and well, it says nothing about the quality of the research nor about the criticism the approach has recently received (Swanson, 1977). The reasons people have suggested to researchers for watching television are likely confounded; hence this problem is addressed here. In most of these studies, respondents may be giving reasons for watching specific program genres, when researchers are asking questions about watching television in general (Lometti, Reeves & Bybee, 1977). In fact, two recent studies have found that the reasons people have for watching television sports (Gantz, 1981) and a specific news magazine program (Rubin, 1981a) are different from the number and kind of reasons already discussed. No wonder uses and gratifications studies have yielded little practical information for producers.

What follows is a report of the partial contents from three large scale national surveys. While none of the studies were specifically designed as uses and gratification investigations, they do contain information which is useful here.

The first study examined viewers' reasons for watching television in general (GENERAL STUDY); the second investigated viewers' reasons for watching daytime soap operas (SOAP OPERA STUDY); and the third asked questions about viewing AM news and information broadcasts (AM NEWS STUDY).

THE GENERAL STUDY

The first study was conducted in December, 1981. The survey design and data analysis were by the ABC Social Research Unit. Telephone interviews were conducted by the National Survey Research Group. The study employed a national probability sample of 1,000 adults, ages 18 and over.

Sample Design

The sample was designed to produce an accurate reflection of the adult 18 and older population of the United States living in households in the 48 contiguous states. The sample was drawn using the updated census figures of the 18 and over population in each state and in each county within each state.

Stratification within the sample insures that it reflects, within one percentage point, the actual proportions of those living in different regions (E, S, MW, W) and in metropolitan (SMSA) and non-metropolitan (non-SMSA) counties. Within each stratum, the selection of the Primary Sampling Unit (PSU) is achieved through a process known as multistage cluster sampling. In this procedure, first states, then counties, and then minor civil divisions (PSU) are selected proportional to actual census counts. The selected PSUs are identified as one of the following types: central city, population 50,000 plus; suburb of central city, urbanized area surrounding central city; town, population 2,500 plus (outside urban area); rural, any village, city or town with a population less than 2,500 (outside of urbanized area).

Telephone numbers were systematically selected (with a random start) from within the PSUs. A modified random digit dialing method was employed. For the central city and suburban units, the first five digits of a selected number were used and the remaining digits for that number were randomly selected. For the town units, the first 6 digits of a selected number were used and the last digit was randomly selected. For the rural units the full number selected was used.

Reasons for Watching Television

Respondents were provided with 34 reasons why people watch TV. They were asked how important each of these reasons was for them. They responded on a five-point scale from "not important at all" to "extremely important." These items were derived from a large number of studies found in the uses and gratifications literature. In all, the items were thought to represent 10 dimensions. The items and dimensions are found in Table 1.

The dimensions rated as important by the respondents were surveillance (61.9%), relaxation (26.5%), entertainment (22.8%), and learning (21.7%). People seemed to watch TV least in order to understand each other (16%), to get a feeling of excitement (8.5%), parasocial interaction (8.3%), to understand themselves (8%), escape (6.7%) and for vicarious experiences (5.4%).

Relationship Between Demographics and Dimensions

In order to gain some understanding of the stability of these dimensions across various subgroups within the population, two sets of analyses were conducted. Employing the demographic variables of race and sex, mean differences were compared for each dimension. Also, the relationships between age, household income and each of the dimensions were examined. Results indicated that males and females watched television for the same reasons. Differences were observed for race. Table 2 presents the means and standard deviations of the dimensions for both black and white respondents.

The tendency seen in Table 2 is that Blacks watched TV more for each of the dimensions than did whites. The largest differences occurred for the parasocial interaction and understand self dimensions.

As shown in Table 3, Pearson correlations were obtained for age and income with each gratifications scale. The strongest correlation was the negative one between household income and parasocial interaction. As income level rises, use of television as a social facilitator falls. Similarly, we found an inverse relationship between use of TV for self-understanding and income, so that as income increases, TV viewing for purposes of self-knowledge decreases. Household income was negatively correlated with each of these uses of TV: excitement, vicarious experience, understanding others and escape. To summerize, as household income level escalates, use of television for excitement, vicarious experience, understanding others, escape, self-understanding, and parasocial interaction purposes declines.

Age was most strongly correlated, in a positive direction, with surveillance of the environment, understanding others, and understanding oneself. This means that the older the person is

TABLE 1

Reasons for watching television

	Alpha	Mean	Standard Deviation
Surveillance	.73	4.0	1.1
• find out main events		3.9	1.2
• learn what's going on in world		3.9	1.1
Entertainment	.67	3.0	1.1
• be entertained		3.5	1.3
• have good time		2.9	1.3
• lift my spirits		2.6	1.4
Learning	.70	2.9	1.1
• learn new things		3.4	1.4
• learn to do things haven't done		2.7	1.4
• learn new lifestyles		2.7	1.4
Relaxation	.66	2.9	1.2
• relax		3.2	1.4
• reduce tension		2.6	1.4
Understand Others	.73	2.7	1.1
• understand how others think		2.7	1.4
• see others behave		2.4	1.2
• understand others' problems		2.9	1.2
Escape	.79	2.3	1.0
• put off doing something		2.2	1.3
• escape everyday life		1.9	1.2
• take mind off work		2.6	1.4
• get away from pressures of home		2.0	1.3
• take mind off problems		2.5	1.4
• pass time		2.7	1.4
Parasocial Interaction	.71	2.2	1.0
• spend time with friends		1.8	1.3
• have something to talk about		2.5	1.3
• feel less lonely		2.1	1.4
• spend time with family		2.3	1.5
Excitement	.75	2.2	1.1
• excitement		2.1	1.2
• get a feeling of adventure		2.4	1.3
• have an exciting time		2.0	1.3
Vicarious Experience	.49	2.2	1.0
• see someone doing things I can't do		2.1	1.3
• see people living glamorous lifestyles		1.8	1.3
• participate in current events		2.8	1.3
Understand Self	.83	2.1	1.1
• understand own life		1.9	1.3
• understand myself better		2.0	1.2
• help make up mind		2.0	1.3
• see if ideas are shared by others		2.6	1.3
• get support for my ideas		2.1	1.3

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TABLE 2

Reasons why blacks and whites watch television

	Mean	Standard Deviation	Sample Size
Learning			
Whites	2.9	1.1	819
Blacks	3.2	1.2	104
Excitement			
Whites	2.1	1.0	819
Blacks	2.5	1.1	103
Escape			
Whites	2.2	1.0	810
Blacks	2.6	1.0	102
Vicarious Experience			
Whites	2.2	.9	820
Blacks	2.5	1.1	103
Understand Others			
Whites	2.6	1.1	815
Blacks	2.9	1.3	104
Understand Self			
Whites	2.0	.9	804
Blacks	2.6	1.2	104
Parasocial			
Whites	2.1	.9	807
Blacks	2.7	1.1	103

Note: Only mean differences larger than .3 or greater are presented.

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TABLE 3

Relationship between demographics and dimensions

	Age	Household Income
Surveillance	r = .17 p < .001	r = -.04 p < .121
Learning	r = .08 p < .007	r = -.09 p < .002
Entertainment	r = .03 p < .062	r = -.07 p < .015
Relaxation	r = .07 p < .009	r = -.05 p < .05
Excitement	r = -.02 p < .221	r = -.12 p < .001
Escape	r = -.06 p < .035	r = -.11 p < .001
Vicarious Experience	r = .09 p < .003	r = -.11 p < .001
Understand Others	r = .13 p < .001	r = -.11 p < .001
Understand Self	r = .11 p < .001	r = -.17 p < .001
Parasocial	r = .10 p < .001	r = -.21 p < .001

the more likely he/she is to view television for environmental surveillance and understanding people (others and oneself).

Dimensions and Television Viewing

In order to examine the validity of the uses and gratification approach, the ability of the dimensions to predict television viewing was assessed. Respondents were asked about the average number of hours they watch television each day. A regression analysis was performed. After allowing the four demographic variables (household incomes, household size, age and sex) to explain all of the variance in television viewing that they could (R^2 = .045), the ten dimensions were entered into the equation. These ten dimensions were able to add 14 1/2% to the explanatory power of these data. The most important predictor of television viewing turned out to be the parasocial interaction dimension. It was able to explain 11% of the variance in television viewing. The next best predictor was entertainment (1.8%). The remaining dimensions were able to add less than one percentage point each.

THE SOAP OPERA STUDY

The second study was conducted in April, 1982. The survey design and data analysis were by the ABC Social Research Unit. Telephone interviews were conducted by trained interviewers at 11 universities across the country.

Survey Design

At each university, a probability sample of phone numbers was selected from student directories or registrars' lists. The universities were selected to represent diverse areas of the country. A list of the selected schools and the number of respondents from each is found in Table 4.

TABLE 4

The soap opera study sample

University	N
University of Missouri	100
SUNY - Buffalo	96
Ohio State University	101
Cleveland State University	28
San Diego State University	96
University of Michigan	100
University of Wisconsin	99
University of North Carolina	103
University of Georgia	100
University of Maryland	100
University of Texas	100
Total Sample Size	1023

Reasons for Watching Soap Operas

Respondents were provided with a list of 39 reasons why people watch soap operas. They were asked how important each of the reasons was for them. They responded on a five point scale from 'not at all' to 'extremely' important. These items were

TABLE 5

Reasons for watching soap operas

	Alpha	Mean	Standard Deviation
Entertainment	.69	3.2	.9
. entertainment		3.9	1.1
. have good time		3.3	1.2
. lift my spirits		2.5	1.2
Relaxation	.62	3.1	1.0
. relax		3.7	1.1
. reduce tension		2.6	1.2
Escape	.77	2.8	.9
. put off doing something		3.5	1.4
. escape everyday life		2.0	1.2
. take mind off work		3.3	1.2
. get away from pressures of home		2.1	1.2
. take mind off problems		2.6	1.2
. pass time		3.3	1.2
Excitement	.81	2.2	1.0
. excitement		2.2	1.2
. get a feeling of adventure		2.3	1.2
. have an exciting time		2.1	1.1
Parasocial Interaction	.68	1.9	.7
. spend time with friends		2.3	1.3
. have something to talk about		2.4	1.2
. feel less lonely		1.5	1.0
. spend time with family			
. meet new people		1.7	1.0
Understand Others	.82	1.9	.9
. understand how others think		1.8	1.0
. see others behave		1.9	1.1
. understand others' problems		2.0	1.1
Vicarious Experience	.71	1.9	1.0
. see someone doing things I can't do		1.7	1.1
. see people living glamorous lifestyle		2.0	1.2
Learning	.76	1.7	.8
. learn new things		1.6	1.0
. learn to do things haven't done		1.5	.9
. learn new lifestyles		1.8	1.1
Understand Self	.84	1.5	.6
. understand own life		1.5	.8
. understand self better		1.4	.8
. help make up mind		1.4	.8
. see if ideas are shared by others		1.8	1.0
. get support for my ideas		1.4	.8

identical to those asked in the GENERAL STUDY with two exceptions. First, the two surveillance items were not asked, since those were 'news' items and did not pertain to soap operas. Second, additional items germane to soap operas were included. These items will be discussed later. The nine dimensions (comparable to the GENERAL STUDY) are found in Table 5.

The dimensions rated as important by the respondents were relaxation (28.1%), entertainment (27.7%) and escape (10.2%). Far fewer students rated the remaining dimensions as important reasons for watching soap operas: excitement (6.6%), vicarious experiences (5.1%), understand others (3.3%), learning (2.1%), parasocial interaction (.9%) and understand self (.5%). Referring again to Table 1, the differences in the importance of these dimensions for the two samples are quite striking. These data provide further evidence that the reasons people have for watching television depend upon the type of programming they watch. Further, there is no one set of dimensions that explains why people watch different types of programs. Many of these reasons apply only to certain program formats. We should expect to see different dimensions for various program types. This is evident in an analysis of two additional dimensions we employed in the SOAP OPERA STUDY. Table 6 contains these additional items and dimensions.

The additional dimensions, to follow the plot (24.2%) and to see characters (11.1%), are also important reasons why students watch soap operas.

While one could argue that going to college might result in influencing one's reasons for watching television, our analysis from the GENERAL STUDY did not confirm this. The largest mean difference on the dimensions between the total sample and those with at least some college education was at most only two tenths of a point. Therefore, the dimensional differences observed between the GENERAL STUDY and the SOAP OPERA STUDY cannot be attributed to education. Rather, these differences must be viewed as a result of one study dealing with television in general and the other dealing with a specific type of programming.

Relationship Between Demographic and Dimensions

Looking at the stability of these dimensions across various subgroups within the SOAP OPERA STUDY, we found that with few exceptions, sex and race had little impact on the reasons for watching soap operas. One exception occurred on the excitement dimension. Blacks ($x = 2.2$, $SD = 1.0$, $N = 93$) were more likely than whites ($x = 2.2$, $SD = 1.0$, $N = 837$) to watch for this reason. Blacks ($x = 3.2$, $SD = 1.3$, $N = 93$) were also more likely to watch soap operas to follow the plot than whites ($x = 2.8$, $SD = 1.1$, $N = 844$). Other demographic variables were not

TABLE 6

Additional reasons for watching soap operas

	Alpha	Mean	Standard Deviation
Follow Plot	.77	2.8	1.2
. to see suspenseful show		2.7	1.3
. to follow interesting plots		3.0	1.3
To See Characters	.61	2.6	1.0
. to admire certain characters		2.3	1.3
. to hate certain characters		2.3	1.3
. to be amused by watching how people can be so foolish		3.3	1.4

included in this study since the college audience is generally very homogeneous. Demographic differences were not likely to occur.

Dimensions and Television Viewing

The ability of the dimensions to predict the students' soap opera viewing was examined through regression procedures. The dimensions explained 6.4% of the variance in total soap opera viewing. The most important dimension was to follow the plot. It accounted for 4.9% of the variance in soap opera viewing. The remaining dimensions explained less than one percent each.

Production Guidelines

The following sections deal with the uses and gratifications derived from regular viewing of soap operas and morning news telecasts. Their purpose is to show which uses pertain to two different genres of programming. By knowing the uses, viewers have for a particular show type, we may format the programs accordingly.

Selected Reasons for Watching Soap Operas

Heavy viewers of daytime soap operas (those who view all or part of at least 13 soap episodes per week) were asked to rate how important various reasons for watching soap operas were to them on a 5-point scale. Viewing 13 or more soap episodes per week represents approximately the top third of the soap viewership distribution. The various reasons appear on Table 7, rank ordered by the percent who feel that the reason is important to them (values of '4' or '5' on the scale, where 5 = extremely important).

TABLE 7

Selected reasons for watching soap operas
for heavy soap opera viewers

Reason	% Important
. try and predict what will happen next	71.0
. be amused by watching how people can be so foolish	52.3
. see a suspenseful show	38.9
. hate certain characters	25.8
. have something to talk about	24.8
. get a feeling of adventure	22.9
. escape everyday life	17.5
. see people living glamorous lifestyles	13.6
. understand others' problems	13.3
. see that others are worse off than myself	11.9
. learn about new lifestyles	11.6
. see someone doing things I can't do	9.2

By far the most important reason cited by heavy soap opera viewers for viewing soap operas was to "try and predict what will happen to the characters" on these soap operas. Seventy-one percent stated that this was important to them. The next most important reason, and the only other one cited as important by a majority of heavy soap viewers, was "to be amused by watching how people can be so foolish" (52%).

Other reasons which were moderately important included to:

"see a suspenceful show (39%),
hate certain characters (26%),
have something to talk about with friends (25%), and
to get a feeling of adventure (23%)."

Reasons which were important to less than 1/5 of all heavy soap opera viewers were to:

"escape from everyday life (18%),
see people living glamorous lifestyles (14%),
help understand some of the problems other people have (13%),
see that others are worse off than myself (12%),
learn about new lifestyles (12%), and
to see someone doing things I can't do myself (9%)."

Implications for Production

As a soap opera producer looking to attract people who are predisposed to viewing soap operas, one needs to bear in mind the characteristics of soap operas which are most important to its viewers. Primary among these characteristics is the need to end episodes in "cliff-hanger" fashion. This allows the viewer to try to predict what will happen in up-coming episodes, something the viewer deems very important to his/her soap opera viewing.

In addition, it is important for some characters in soap operas to get involved in an occasional foolish situation. Seeing others do or say things which the viewer knows to be silly or foolish is amusing to the viewer, perhaps reassuring the viewer of his/her own sense of propriety and tact.

THE AM NEWS STUDY

The final study to be reported here was conducted in April, 1982. The survey design and data analysis were by the ABC News and Social Research Unit. Telephone interviews were conducted by Frank N. Magid Associates. The study employed a national probability sample of 1,200 adults, ages 18 and over. The sampling procedures of this study were the same as those employed in the GENERAL STUDY.

Selected Reasons for Watching Morning News and Information Programs

We looked at the people at the high end of the viewing scale. Those who view all or part of 6 or more morning news telecasts per week (NBC's 'Today', ABC's 'Good Morning America,' CBS's 'Morning') stated their reasons for such viewing behavior. Viewing of 6 or more shows per week represents approximately the top third of the AM news viewership distribution. These items are listed in Table 8 which also shows the percent of heavy viewers who strongly or moderately agree with each item.

The primary function of watching morning news shows was informational. More than 9 out of 10 of all heavy AM news viewers watched in order to:

"learn what's going on in the world,
see important events happen,
learn about new things, and
to see if anything important has happened overnight."

More than 2/3 of high AM viewers used these shows to:

"get information they can't trust,
see how others cope with today's problems,
have something to think about,

TABLE 8

Selected reasons for watching AM news programs
for heavy AM news viewers

Reason	% Agree
• learn what's going on in the world	97.4
• watch important events occur	96.4
• learn new things	96.4
• see if anything happened overnight	94.9
• learn issues	92.0
• get information I can trust	83.1
• see how others cope	77.5
• things to think about	77.1
• participate in current events	76.3
• talk to friends about	72.8
• be entertained	72.4
• avoid missing something	67.7
• to relax	64.0
• see someone doing things I can't do	61.1
• help make up mind	59.7
• ease me into the day	56.6
• keep me company	56.1
• occupy my mind	55.5
• see what famous people are like	52.7
• understand life	52.6
• stimulate me to start day	52.1
• lift my spirits	51.3
• keep me on schedule	41.0
• see glamorous lifestyle	24.8

feel that they're participating in current events,
have something to talk to friends about,
be entertained, and
to avoid missing something."

Between 1/2 and 2/3 of high AM news viewers watched to:

"relax,
see someone else doing things I can't do,
help me make up my mind,
ease me into the day,
keep me company,
occupy my mind,
see what famous people are like,
understand my life,
stimulate me to get my day started, and
to lift my spirits."

Less than half of the high viewers watched these programs in order to "keep on my morning routine, or to see glamorous lifestyles."

Implications for Production

Applications of these findings are useful to producers of morning news and information programs. Basically, the viewers wanted to see the most current news, if possible, even as it was happening. The viewers showed little interest in using these shows as time-keepers, nor did they care to see glamorous people at the start of the day. Producers may want to de-emphasize glamor on these shows, and use a lot of breaking news stories. Since people do not use these shows as a kind of clock, it is not necessary to keep the show on a standard schedule - for example, weather always given at 5 minutes before the hour. These are a few examples of the possible uses for this kind of study.

SUMMARY AND CONCLUSIONS

While the uses and gratifications approach to mass communication research has received a great deal of attention in the scholarly literature, little practical information is available. This limitation of the research is in part due to problems inherent in the approach. Evidence presented here demonstrates one of these problems. The reasons people gave for watching television varied with different types of programming. Asking questions about watching television, in general, will offer little or no practical information.

We conducted three studies which bear directly on this issue. When asked about watching television in general, they reported watching television most for surveillance, relaxation, entertainment, and learning. Watching for excitement, escape, parasocial interaction, vicarious experience, to understand others and to understand self were less important. These findings held for most subgroups of the population. The dimensions were able to explain 14.5% of the variance in total television viewing. However, almost all of the predictive power of the dimensions was found in just one area -- parasocial interaction.

Results from the remaining studies demonstrated that the reasons people have for watching television in general are different from those watching soap operas or morning news and information programming. Soap opera viewing is motivated primarily for entertainment, relaxation and escape. Morning news and information programming is viewed primarily for surveillance and learning.

These findings point to the fact that research must be developed which includes questions why people watch specific programs or

program types. In this way 'actionable' data can be made available to the practitioner. We have presented evidence from two studies which supports this point. Of course this approach will not provide all of the answers. When a producer has a program concept that is innovative and does not fit into a program type, then program evaluation would become the more valuable research tool. Viewers are obviously not able to tell us why they want to see something that they have not seen. However, uses and gratification type questions could still be developed to deal with new programming ideas that would be aired at certain times of the day. For example, respondents could be asked how likely they would be to watch a program that contained a new genre of content at a specified time.

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Guy E. Lometti is Supervisor in Social Research at ABC, Inc., 1330 Avenue of the Americas, New York, NY 10019. He has been an Assistant Professor of Speech Communication at West Virginia University and is interested in research on the uses, gratifications, and effects of mass media.

Maria Dandola is Senior Analyst in Social & Developmental Research at ABC, Inc.

Gene Cooper is Manager in Developmental Research at ABC, Inc.

N.B. The views reflected in this paper are not necessarily those of ABC, Inc.

MARKET ANALYSIS AND STRATEGIC PLANNING AT TVONTARIO

Barry Green
TVOntario
Toronto

ABSTRACT

The field of educational telecommunications puts considerable demands on market research. This paper explores some directions for research conducted at TVOntario. The object was to develop an interface between the needs for research which could be used for decision-making in the organization, as well as being academically rigorous and probitive.

INTRODUCTION

In the contemporary world, it is becoming clear that areas of expertise and enterprise are merging in novel ways. Often the result of technological innovation and traditional, boundaries break down as previously unrelated fields intersect, forming hybrid institutions. This phenomenon is particularly evident in the field of educational telecommunications, joining a wide spectrum of specialists, technologies, and resources into a melange of traditional and emergent structures. To some extent, the interface between education and telecommunications reflects changes in the everyday world, whereby learning is no longer the sole province of the young and information is often the basis of acculturation to a changing world. On the other hand, this new enterprise is also a matter of innovation on the part of its practitioners, who seek to provide alternative uses of telecommunications, distinctively different from the entertainment function, served by most of the private broadcasting sector.

Combining the dimensions of education and learning systems, production and broadcasting technologies, school and community services, to mention only some of the more salient features, this enterprise requires information of a very particular type. Unlike commercial networks, whose financial interests are linked most especially to body counts in terms of "reach", educational telecommunications requires analyses of contemporary phenomena which are relatively unresearched, due in part to the new technologies and changing societal patterns which make them possible. On the other hand, basic decision-making processes must go on within the organization, which require information that can be of use to management and the production staff. There is thus a dual responsibility for the members of the research department engaged in this field.

This paper presents some aspects of the overall attempt to meet

both of these responsibilities. More particularly, it reflects a portion of the work carried out in the market research branch at TVOntario. The object is to demonstrate how sophisticated research, often labelled 'academic', may provide leadership for decision-making with respect to the ongoing work and obligations of an educational telecommunications authority.

THE SETTING

Like any other educational authority, TVOntario faces the fulfillment of two responsibilities. On the one hand, it must satisfy currently acceptable learning objectives, with respect to a variety of educational needs. Alternatively, it must strive to meet the needs of the various individuals it serves. Unlike traditional educational institutions, however, it must also take into account a wide variety of factors relating to the technologies of television and other media, production/distribution and delivery systems, and the promotion of its services. It must also concern itself with vastly different settings, including the use of its services by teachers and students in the public and secondary schools, professionals and paraprofessionals in various areas of expertise, and the reception of its broadcasts in the homes of the general population. These characteristics represent some of the more important dimensions of the Authority's external role.

From an internal organizational point of view, these services are managed through a particular division of labour. Currently, TVOntario is in the process of developing a marketing perspective, in which these services are organized into six marketing groups, including children and adolescents at home and in school, as well as adults and part-time learners. All of the above are further subdivided according to French and English services. The adoption of a marketing perspective has necessitated placing emphasis on being responsive to many characteristics of each of the markets. Nevertheless, it should be clear that no educational authority can ignore the goals it sets for itself. Just as universities have become more responsive to part-time students, mature students and the communities they serve, they must still strive to fulfill their own goals with respect to the administration of higher education. Thus, there is a fragile balance between organizational goals and public, professional and paraprofessional interests, in terms of learning objectives. It is within this interface, between the external services and internal organizational arrangements, the market research branch must work.

One of the most basic features of marketing is segmentation, by which each market is subdivided into groups having some particularly similar characteristics. It is incumbent upon the market research branch to determine the most pertinent segment-

ation, as well as to provide a profile of each segment with respect to a range of relevant characteristics. Ideally, this segmentation should aid in tailoring services more appropriately to each market, as well as to sub-groups within any particular market. This information might then be used for strategic planning, which refers to a biennial process conducted by each marketing group, covering the full range of plans it has developed after having been provided with a careful market analysis.

The market research branch, therefore, attempts to provide both a market analysis, as well as a rigorous explanatory analysis of multiple dimensions relevant to educational telecommunications. It is by no means a simple process, since the kind of information required is not easily translated into market analysis. On the other hand, given the range of analysis, it can prove far more enlightening than mere frequencies or percentages. In order to present this process, a specific study generated by the need for a better understanding of the adult broadcast service will follow.

THE RESEARCH PROBLEM AND METHODOLOGY

In the spring of 1981, it was decided that a research project should be conducted to focus on educational and learning needs, with respect to the use of traditional and non-traditional delivery systems among adults (18 years or older) in the province of Ontario. At the same time, it was hoped that a pertinent method of market segmentation could be effected through this study, providing a profile of specific types of learners. This dual purpose offered the opportunity to combine the dimensions of probitive analysis and marketing in terms of a sophisticated research design.

A market segmentation can be based upon a variety of characteristics, such as demographic, psychographic or geographic variables (Kotler, 1975, pp. 94-122). In the case of TVOntario, an analysis of the adult market was deemed to be most relevant if it were based upon differences in educational and learning needs. In addition to the market segmentation analysis, several research hypotheses, based upon status attainment and the sociology of education literature, were developed for testing (Matsui, 1981).

In order to fulfill the demands of the project, it was decided that we would require an omnibus survey, tapping multiple dimensions of the same item and employing multidimensional scaling techniques, as well as multivariate analysis. The final questionnaire, consisting of 213 items, included the following areas of inquiry:

1) Educational and learning needs;
2) Educational satisfaction;
3) Topical areas of interest;
4) Current media interests;
5) Current media-related leisure behaviours;
6) Current television viewing behaviours;
7) Production attributes;
8) Individual level variables.

Since the research model and the market segmentation analysis rested on the degree to which differences in learning needs could be determined, we searched the literature to attain adequate measures of these relatively abstract attitudes. Burgess (1971) provided a model consisting of a list of reasons for participating in educational or learning situations. In addition, Burgess employed a data reduction technique, congruent with our own need to tap underlying dimensions of the data on an exploratory and probitive basis. Subsequent analysis was also based upon Frank and Greenberg's (1980) study of the use of television by adults in the United States. In this study, data reduction techniques were subjected to further analysis by employing a clustering procedure. The need for this series of analyses was due to the fact that factoring procedures define variables, creating scores on those variables, but do not aggregate individuals with combinations of characteristics or traits into discrete groups. A cluster analysis based upon a factor analysis of educational needs would provide not only a method of aggregating individuals who shared common learning needs, but also one which could be further subjected to a variety of analyses including bivariate and multivariate techniques.

RESEARCH FINDINGS

The factor analysis of educational needs led to a solution based upon three interpretable factors. In order of priority, formal learning, knowledge about society, and general knowledge characterized the data. 'Formal learning' referred to more traditional and utilitarian reasons for participating in education (see Table 1). 'Knowledge about society' was determined by more non-traditional features of learning, including learning about community problems, about important social issues, about society as a whole and about becoming a more effective citizen. The third and last factor, 'general knowledge', was defined by personal satisfaction and enrichment derived from learning opportunities.

This three-factor solution was conceptually meaningful, given both the order of the factors and the fact that traditional learning explained more of the variance among the variables. At the same time, although second and third, 'knowledge about

TABLE 1

Factor analysis of learning needs

	Formal learning	Knowledge about society	General knowledge
Upgrading educational credentials	.91	.02	-.06
Earning a degree, diploma, certificate	.90	-.09	-.02
Gaining security through schooling	.80	-.04	.03
Securing advancement through education	.79	.04	.04
Participating in classes, discussions	.45	.24	.14
Exchanging ideas with experts	.40	.12	.23
Writing about interesting subjects	.25	.13	.23
Learning about community problems	.01	.73	-.06
Learning about important social issues	-.16	.69	.16
Becoming a more effective citizen	.27	.67	-.09
Learning about society as a whole	.06	.49	.24
Satisfying my desire to know	.02	-.09	.79
Satisfying my intellectual curiosity	.00	-.05	.73
Enriching my life through learning	.23	.09	.56
Becoming a better-informed person	.07	.23	.49
Reading about interesting subjects	-.07	.26	.45

society' and 'general knowledge' appeared to represent newer dimensions of learning needs. It then became necessary to perform a cluster analysis based on the factor scores. This procedure provided us with groups of individuals having differing degrees of each of the three learning needs. Six clusters emerged from the analysis representing from 8.1% to 31.4% of the population of Ontario (see Table 2).

The first cluster appeared to represent 'committed' learners, in that individuals scored high on formal learning, average with respect to general knowledge and low on knowledge about society, Clusters 3 and 4 were interpreted to be 'above' and 'below' average learners respectively, scoring just above and below the mean. 'Non-structured' learners, the fifth cluster, scored well below the mean on formal learning and relatively high on knowledge about society and general knowledge. Finally, 'non-learners' scored well below the mean on all three dimensions of learning.

The clusters were then analyzed with regard to their association

TABLE 2

Cluster analysis of learning needs

	Mean S.D.	Minimum S.D.	Maximum S.D.
Cluster 1: 'Committed' Learners (14.3%)			
Formal learning	1.06	.35	1.60
Knowledge about society	.93	.50	1.70
General knowledge	.74	-.11	1.10
Cluster 2: 'Structured' Learners (14.7%)			
Formal learning	.74	.03	1.50
Knowledge about society	-.11	-.96	.32
General knowledge	.28	-.40	.87
Cluster 3: 'Above Average' Learners (13.4%)			
Formal learning	.35	-.09	1.01
Knowledge about society	.36	-.10	.99
General knowledge	.28	-.29	.81
Cluster 4: 'Below Average' Learners (31.4%)			
Formal learning	-.21	-1.70	.47
Knowledge about society	-.15	-1.15	.62
General knowledge	-.16	-1.08	.69
Cluster 5: 'Non-structured' Learners (8.1%)			
Formal learning	-.74	-1.90	-.03
Knowledge about society	.93	.40	1.70
General knowledge	.79	.10	1.65
Cluster 6: 'Non-learners' (14.4%)			
Formal learning	-.86	-3.00	.78
Knowledge about society	-1.23	-4.00	-.40
General knowledge	-1.32	-4.00	-.40

with such items as life interests, television viewing preferences, educational satisfaction and topical interests. In addition, multiple regression analyses were performed with respect to individual level variables. The results of these analyses provide profiles of each cluster in terms of a wide range of variables.

THE CLUSTER PROFILES

Profiles of each cluster were developed through a variety of analyses, including bivariate associations with eleven different categories of attitudes and behaviours, as well as multivariate

analyses of individual level variables. These profiles provided considerable information for the strategic planning enterprise within the adult and part-time learning markets. For the purpose of illustration and brevity, one of the six cluster profiles will be described. It should be stressed that each cluster was carefully analysed and a set of priorities was assigned with respect to each of the six.

Multivariate analysis revealed that members of Cluster 5 (non-structured learners) were more likely to be older, have higher incomes and have more education (see Table 3). In terms of television viewing, the data revealed a positive association with watching PBS, TVOntario, CBC and Radio-Canada (see Table 4). Individuals in Cluster 5 showed a wide range of life interests and media uses, more particularly including classical culture, public affairs, energy and health issues, as well as drama and fiction in the former category (see Table 5). The latter included the pursuit of interests across a wide range of media, including such areas as classical culture, business and geography. Individuals in Cluster 5 were also more likely to seek information rather than entertainment on television. Consistent with this latter finding, membership in Cluster 5 was positively associated with reading newspapers and negatively associated with popular culture magazines (see Table 6).

In addition to the above information, we were also able to ascertain the current penetration levels of TVOntario's services within each cluster. For example, approximately 75% of Cluster 5, representing about 19% of the total composition of the TVOntario audience, were currently watching our broadcasts (see Table 7). In regard to this latter point, it can be seen that penetration levels range from 20% in the cases of Clusters 3 and 6, to 75% of Cluster 5. Thus, although the members of Cluster 6 scored well below the mean with respect to educational needs, they nevertheless report watching TVOntario. It may well be that we require information of a different kind in order to serve the members of such groups. Since members of Cluster 6 are also less likely to have young children, it is likely that they themselves are watching. Thus, further research is required in order to refine our understanding of preferences, attitudes and behaviours with respect to viewing TVOntario. Overall, each cluster profile provided considerable information and became the basis of decision-making with regard to the services to be offered to the adult and part-time learning markets.

SUMMARY AND CONCLUSIONS

The incorporation and use of market research within any organizational setting depends upon a variety of factors. We have tried to show that the complexity of the area of educational

TABLE 3

Demographic characteristics of learning clusters

	Non-structured learners
Education[1]	.08*
Occupation	
Professional	-.07*
Sales/Clerical	-.06
Skilled labour	-.06
Unskilled labour	-.05
Housewife	-.06*
Student	-.08
Income	.13***
Age	.22***
Community size[1]	.01
Sex (male)[1]	-.01
Marital status	
Single	.07
Married	.02
Language[1]	-.05*
Children	
Preschool	.00
Primary	-.03
Highschool	.00

[1] Unstandardized regression coefficients

Statistical significance: * = .05
** = .01
*** = .001

TABLE 4

Associations between learning needs and television viewing

	Non-structured learners r	stat. sig.
Hours of TV	.03	ns
ABC	-.01	ns
CBC	.05	.037
CBS	.01	ns
CTV	-.01	ns
Global	.00	ns
NBC	.04	ns
PBS	.16	.000
Radio-Canada	.10	.000
TVOntario	.08	.001

TABLE 5

Associations between life interests and learning needs

	Non-Structured learners r	stat. sig.
Classical culture	.22	.000
Science fiction	-.06	.018
Science/Technology	.10	.000
Comedy/Variety	.04	ns
Nature/Geography	.16	.000
Sports	.02	ns
Supernatural	.00	ns
Public affairs	.23	.000
Drama/Fiction	.19	.000
Energy issues	.23	.000
Health issues	.16	.000
Gardening/Decorating	.06	.011
Contemporary music/Dance	-.04	ns

TABLE 6

Associations between learning needs and media uses

	Non-structured learners r	stat.sig
Non-specific Media Use:		
Classical culture	.22	.000
Business	.18	.000
Science	-.03	ns
Geography	.15	.000
Sports	.03	ns
Music	-.02	ns
Non-print Media Use:		
Information on TV	.15	.000
Entertainment on TV	-.07	.006
Print Media Use:		
Fiction (books)	.06	.019
Popular culture (magazines)	-.08	.003
Social science (magazines)	.05	.045
Gardening/Decorating (magazines)	-.03	ns
Newspapers	.15	.000
Community participation	.04	ns

TABLE 7

Association between learning needs and TVO viewing

	% of population	% of cluster that watches TVO	Composition of TVO audience
Committed	14.3	31	15.5
Structured	14.7	23	12.7
Above average	13.4	20	10.5
Below average	33.0	27	28.7
Non-structured	8.1	75	19.1
Non-learners	17.4	20	13.5
			100.0

telecommunications demands rigorous research design and analysis. Although this gives the extra problem of translating a wide range of data into manageable and comprehensible information, the advantages appear to outweigh the disadvantages. In addition, there need be no separation of academically acceptable research and the marketing profiles which aid market groups in the determination of planning priorities. In this manner, greater degrees of understanding about the nature of changing patterns in learning attitudes and behaviours can be analyzed, providing more knowledge about a rapidly changing society.

Bridging the gap between organizational needs, with respect to decision-making and the need for better comprehension of changing educational needs, is a difficult process. The current method herein described is one approach which may prove more fruitful as our data base is increased and as refinements in questionnaire items are made. It obviously will depend upon a commitment to such research, fostered by perceived advantages on the part of those individuals who employ the results, as well as upon an understanding of the need to explain what learning is all about in the contemporary world.

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Dr. Barry Green and James Matsui are research officers in the Market Research Branch of TVOntario. Dr. Green is also a special lecturer at Erindale College, University of Toronto, teaching courses in Sociology and Communications. The methodological and statistical analyses reported in the paper were due primarily to the work of James Matsui.

TELEVISION, CHILDREN AND SOCIETY: A CANADIAN PERSPECTIVE

D.J. Engel
University of Alberta
Edmonton

ABSTRACT

This paper is an overview of television research in Canada, within an international context. A brief of the historical aspects and an identification of 1975/76 as the turning point in research directions, points up the shift from aggression-dominated studies to a more pro-social, positive type of study. The writer draws attention to concerns, priorities, and new and challenging directions.

This presentation is a survey of past and present research in television with a primary focus on Canada. It is impossible to cover in detail the many projects and programs. Those mentioned are included as examples or because they make a particular point. Because this is only a sampling, this writer would encourage the reader to follow up and seek specifics. Most of the research that this report sets forth is in broad areas and - if any specific layers are identifiable, they are Cultural, Social and Educational. Health education is interpreted in its broadest sense, including mental as well as physical, even community health. The most readily identifiable audience level is the young. Furthermore, all television stems from production: therefore, all television research has a bearing on production.

Historically speaking, Canada and the Canadian broadcast milieu have a cultural and economic dependency upon the United States. It is fashionable from time to time to seek self-expression and cultural independence, but Canadians, here in the "Great White North", are tied quite closely to the United States. There are also strong ties within the research community. There is nothing wrong with that; particularly as the Canadian scene shifts and urbanizes, there are many studies that Canadians may use to their advantage. There are also some that Canadians must do for themselves. But, it is important to keep in mind that those in the United States are the forerunners, they have the depth, the money, the institutions, the audience size and scope, and the expertise.

Further to that point, Canada is also culturally tied to other outside influences. Great Britain, for example, is the historical base for much of Canadian life, specifically the law. Television research in Canada has closely followed and paralleled that in the United States but with the usual lag that

one comes to expect. It was not until 1965 that one could speak in terms of Canada being served by the television industry. For the most part, television research has emanated from the East, or Central Canada, but is now becoming more balanced across the country.

Little was undertaken in the 1960's. Comstock remarked in an address (1975) that until the United States Surgeon General's report, television was thought to have little influence on the young viewer. He bemoaned the lack of activity in the mid-1970's.

> Support for this research is miniscule. The research has been fragmented, uncoordinated and has not led to systematic exploration. It is time to reassess priorities (p.96).

Comstock told his audience (1) to continue the violence watch, (2) to stress family viewing, (3) to look closely at television advertising to the young viewer, (4) to seek increased foundation support for research on television, children and youth, and (5) to expand the emphasis on social behaviour. It may be of interest to see how closely the research community attended to this call for a priority reassessment.

Since the mid-1970's are rather pivotal, it is important to take a closer look at the material coming from that conference in 1975 as reported by Anderson, Comstock and Dennis (1976). The delegates put together a list of common concerns which may be the focus of research in the decade that follows.

The first concern was the better translation of research findings into policy and action - not a new or unusual concern for researchers to voice. Secondly, a need was expressed to protect young persons from unintended harm as from televised violence and advertising. Following closely on that is the concern that young persons derive the greatest possible benefits from television. Fourthly, the conferees were concerned with the improvement of the dissemination and evaluation of scientific findings, so that self-correcting mechanisms of science and the rate of practical application could be speeded up. Finally, (an unusual expression to come from such a group), a concern was voiced that something more or different from what is being done now, could increase the quality and the impact of research on television and the young.

The conferees at this particular summit convened in workshops and assembled with a consensus of research topics. Their suggested topics include the following six items.

The first would place the influence of television more clearly in context with other factors influencing young people; for

instance, the family. Secondly, a focus would be placed on television's contribution to aspects of individual and social life considered socially important (prosocial behaviour, anti-social behaviour, attitudes and values, comprehension, cognitive skills, and role expectations).

Thirdly, the need was expressed for research that would permit comparisons between the United States and other societies regarding television's influence upon the young; fourthly, the need for research that takes into account developmental differences, so that the influence of television on young persons of different ages can be more fully understood; fifthly, the need for research that would analyze and monitor the content of television; and, lastly, the need for research on the television industry as an institution; its effectiveness, regulation, economics, decision-making processes and relation with other institutions.

The research that came to light following that year (1975), set the research agenda for the next few years. The more comprehensive studies on violence were finished and there was a noticeable decline in the number and scope of television/aggression-related studies. The emphasis had shifted. Some examples from 1977 are described here.

Huston-Stein's TELEVISION AND GROWING UP (1977) suggests that such features as non-verbal auditory effects, action, and rapid auditory or visual changes tend to elicit and hold children's attention. Visual camera effects such as zoom and pan techniques were less powerful in eliciting attention than similar auditory features, such as sound effects and changes in auditory stimuli. The research cited suggests that formal as opposed to content features, in general, are especially influential with very young children and children with little television viewing experience. Comprehension of formal features was found to increase with age. It is also suggested that formal features may affect behaviours such as persistence, activity level, and aggression, and may be more influential than violent content in eliciting certain behaviours.

Henderson and Swanson (1977) looked at the effects of televised skill instruction. This study, featuring young Native Americans, was one of a number that indicated that television alone can be an effective medium for teaching complex conceptual behaviours.

Coldevin (1977), in the Frobisher Bay Study, drew attention to the problems associated with television and the North.

> The more critical social/psychological effects of television appear levelled toward Inuit children. English has become the 'acceptable' peer group language, television

> the primary out-of-school activity (children of any age will watch until sign-off), and the south is emerging as the preferred working location. Unfortunately, the bulk of the present programming does not provide a structure for realistically coping with the south. And given the 'entertainment entrenchment', it may be difficult to introduce educational television as a compelling alternative (p. 34).

Television, in the context under study, thus appears eminently qualified to serve as an alien cultural socialization agent (paraphrased from Coldevin). He makes several general recommendations:

(1) the need for lateral information flow among northern communities;
(2) the establishment of television programming relevant to the life style, culture and language of the native northerners (Valaskakis: in Coldevin, 1975); and
(3) the development of production centres in the north controlled and operated by the northerners (Curley: in Coldevin, 1976).

Coldevin further reminds us that if community television is successfully to compete with existing programming and hold a substantial portion of its intended audience in Frobisher Bay, the production techniques employed may have to approach the relatively sophisticated level to which their 'television literate' audience is now accustomed.

A study by Schleicher (1977) reported to the 'Council of Europe' on the use of television in pre-school education in sparcely populated areas, told much the same story. Current programming was described as generally inappropriate, since it portrayed issues and places foreign to the rural child. Recommendations for program development included: (1) making content more culturally relevant; (2) establishing resources for parent and teacher involvement in the child's television viewing; and (3) utilizing, multi-media approach with books, toys and other materials related to the television programs, to encourage the child's overall development. It is also suggested that collaboration between countries in program production and exchange could decrease financial strain in the development of recommended educational systems (p. 49).

In approaching the 1980's, new patterns and emphases began to emerge. If one were to tally the types of research topics appearing in the literature from 1979 to early 1981, one would find a heavy emphasis on children and information processing,

learning, and cognitive development. Television researchers moved away from what television was doing to children and toward what it could do for children and society.

The second largest category was family-related studies, the impact of television on society and, holding its own, television's relation to sex and violence.

Thirdly, there were a few studies directed at television news, the adolescent, ethnic differences and analyses of specific and general programming.

Finally, making a new and encouraging start, were studies that probed the pro-social aspects of television, particularly children's television. At the same time, there appeared to be a smattering of studies concerning the elderly and television.

An interesting Canadian study (Tate & Trach, 1979) was an example of cross cultural interests. These researchers studied the effect of U.S. television programs upon canadian beliefs about legal procedure. Their findings, briefly stated, were that Canadians who rely on television for information about court procedures would acquire incorrect information, as would their American counterparts. Their study also supported the concept of incidental learning, first proposed by Schramm (1973), that people do obtain information from television without deliberately seeking it out.

> Because knowledge of the Canadian judicial process is inversely related to reliance upon television programs about lawyers, this is one small indication of the Americanization of Canadian culture. Canadians have long been concerned about the American domination of Canadian broadcast media. As long ago as the 1929 AIRD COMMISSION REPORT and as recently as the Ontario Royal Commission on Violence in the Communications Industry (1976), concern has been expressed about the pronounced American cultural saturation of the media as being detrimental to Canadian cultural survival (p. 10).

Because of the variety of competing information sources, it is important for people critically to examine the content of the information and the sources from which it derives - or they are apt to receive inaccurate information about the Canadian and the American judicial systems.

> If the problem is to be corrected, then members of the legal community, as well as individuals interested in it, must seek ways

> to overcome the influence of the mass media. Educational programs in schools, visits by school children to courtrooms, also help to overcome the false impression developed by watching television. As other sources of information become available along with personal experience, the effects caused by the monopoly held by television and other mass media can be overcome. Parents can also help to overcome the influence of television by discussing the legal process with their children. Certainly this data indicates that younger children rely more upon their parents for information than they rely upon television and other media (p. 10-11).

Presently (1981-1982), there is a movement away from the traditional research patterns toward new and exciting operations. One area that has brightened television researchers' lives, is the emergence of studies from children's hospitals regarding the use of closed circuit and participatory television with young patients. Johnson (1982) at the Minneapolis Children's Health Centre - and Guttentag, Albritton and Kettner (1982) at the Winnipeg Children's Centre, are two studies bringing solid meaning to the term 'interactive' as applied to television.

In the Spring of 1982, at a conference in Vancouver on CHILDREN AND TELEVISION: A CHALLENGE FOR EDUCATION, Edward Palmer, Vice-President of Research at the Children's Television Workshop, New York, told the delegates that there is little or no research being conducted at present. There is no money for further research in children and television or for the production of children's programs. But there are projects under development. New ideas are being explored and resources will be brought together to keep some projects alive.

In summary, this report has scanned the early years, the pivotal mid-1970's, the transitional time that followed and the concerns of today. One additional concern remains. Both researchers and producers bring broad and varied experiences to television, but often the need for specificity overpowers more important needs and interests of the community. In the Summer of 1981, the National Council for Children and Television (NCCT) published a set of guidelines on the needs and interests of children and families. These guidelines fall into four categories: self, others, society - and families and children. This writer wishes to leave you with this challenge. Become familiar with these guidelines, and approach your work as a researcher or producer of instructional television with them in mind.

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Dr. Douglas J. Engel, is Associate Professor of Educational Media in the Department of Secondary Education at the University of Alberta/Edmonton; he is also Director of Project ITRIC (International Television Research and Information Center) at the same University.

REMEMBERING THE NEWS: INFLUENCE OF GRAPHIC AND ORAL REINFORCEMENT

Robert Bernard & Gary Coldevin
Concordia University
Montreal

ABSTRACT

Recaps significantly direct viewer attention to relevant news stories, but the rate of item recall was not affected by 'voice-over graphics' verses 'presenter only' treatments. Neither version had any effect on detailed information retention.

INTRODUCTION

The study reported in this paper is the second in a series of studies (see Coldevin & Bernard, 1982) concerned with factors which influence the recall and retention of news story content. Memory for new items is an important research area because, as Booth (1970) puts it "recall is the way in which news is most frequently utilized" (p. 604). Since the average consumer has little direct control over the events that make the news, keeping abreast is the primary activity in which they engage. This implies being able to associate today's news with recalled items from previous newscasts.

Booth's opinion is indeed ironic, particularly when viewed in light of the most consistently documented finding which has emerged from the rather limited literature. A number of studies have reported that viewing audiences remember surprisingly little of the news they watch. Stern (1973), for example, reported that 51% of those interviewed a few minutes after watching a news broadcast could not remember a single item. Other studies conducted in a variety of naturalistic and experimental settings with real and fictionalized content have produced similar findings. This rather dismal state of affairs has led several researchers to explore those variables which contribute to a viewer's memory for news content. Two such studies have recently been reported.

Stauffer, Frost and Rybolt (1981) wondered if the medium of dissemination (print, television or radio) affected the recall of samples of U.S. and Kenyan undergraduate students. In terms of overall recall, the two samples were found to be about equivalent -- both groups remembered rather poorly, thereby confirming earlier work. Television and print were found to be more effective than radio, but for different kinds of information. Names of people and numbers were remembered better from print, while names of places seemed to be better recalled

from television. They also found that placement of a news item earlier in the broadcast tended to produce better recall of that item.

In a study of news viewing habits, Booth (1970) found, through daily interviews with 63 volunteers, that item location in a series of news items affected recall. However, several other factors were identified as influencing an item's memorability. Providing more frequent exposure to an item and supporting it with pictures were found to increase the probability that the item would be remembered, but allotting more time to the item made no apparent difference. However, saliency of an item, (i.e. an individual's expressed interest in an item) overrode the effects of the independent variables previously mentioned. The overall conclusion was that manipulation of format variables can affect the retention of information as long as there is no intrinsic motivation on the part of the viewer to value and thereby remember a particular story item.

One relatively simple way of improving a viewer's memory for specific stories previously encountered, is to briefly recap or reiterate the major news items at the end of the program. Presumably, the recapped story lead (i.e. the essence of the story) acts as a cue to the recall of the more detailed story content presented earlier. Accordingly, the viewer should be able not only to remember recapped story leads more effectively, but should exhibit a more reliable recollection of the factual details of the recapped story. As intuitively obvious as this description of the hypothetical benefits of recapping appears, there is little direct research evidence to support it. In fact, studies of the memorial effects of summaries and other memory adjuncts placed after prose materials suggest that only summary-specific information is recalled better (Hartley, 1982). Information not contained in the summary appears to be relatively unaffected by the adjunct. Judging from this scanty evidence, one could not reasonably expect recaps of the 'gist' of the story content to greatly enhance memory for details which are not directly relevant to the recap.

The major purpose of the study reported here was to determine if recaps placed after a news program promote more effective recall of the 'gist' of story content and if that benefit is extended to the details (i.e. names, places, dates, etc.) which make up the bulk of the story. To distinguish between the two kinds of information, we used two separate dependent measures, multiple choice and free recall -- the former designed to assess memory for details and the latter a measure of the 'gist' of the stories.

Another purpose of the study was to determine if the effectiveness of recaps carries across age levels. In previous work on summaries, Hartley (1982) found that younger readers,

presumably less skillful at extracting the most salient points from a prose passage, benefitted more from post-passage summaries than older, college-age subjects. Therefore, we included subjects at three age levels in the experiment and hypothesized an interaction with the independent variable, re-capping strategies.

We also included two types of recaps. In an oral condition, the news reader appeared on the screen at the end of the program and simply spoke the recaps. In a graphic recap condition, the recaps were presented both orally and graphically. We expected that the combined oral and graphic presentation would provide the best form of memory support.

METHOD

Sample

The sample for the study consisted of a total of 878 subjects in three grade levels. There were 306 subjects in Secondary I (first year of high school), 289 subjects in Secondary V (last year of high school) and 286 subjects who were enrolled in college-level courses.

Design

The design of the experiment consisted of three levels of the independent variable, age, by three levels of the independent variable, recap conditions. Subjects were distributed across the nine cells of the design as follows: Secondary I, no recap (n=105); Secondary I, oral recap (n=96); Secondary I, graphic recap (n=113); Secondary V, no recap (n=113); College, no recap (n=90); College, oral recap (n=93); and College, graphic recap (n=103).

Two dependent variables were used: a 28-item multiple-choice test covering the specific factual content of the news program and a free-recall measure of memory for the 'gist' of the stories. For the purposes of analysis, each of these dependent measures was divided into recapped and non-recapped items.

Material

The details of the production of the experimental materials used in this study are presented in Coldevin & Bernard (1982). However, several changes were made in the original design to reflect the purposes of the present study. To reduce the effects of serial order and item location, the four programs (i.e. presenter types) were re-edited so that the recapped story items were better distributed over the entire presentation sequence. Originally, story items 1,2,3, and 8 were recapped. In the edited version, items 1,3,5 and 8 were the recapped stories. We also created two conditions of recap; one with graphics and one without, as well as a control condition which

received no recap. In total, the recaps added about 15 seconds to the program running time.

PROCEDURE

The treatments and tests were administered in the subjects' classrooms during normal school hours. Each group was treated in identical fashion. First, the study was introduced and subjects were informed of the procedures that would follow. They were then shown one of the three videotapes which contained either an oral recap, a graphic recap, or no recap at all. After viewing the news program, the subjects were asked to recall and list in point form as many of the stories as they could. Then, the subjects were administered a twenty-eight item multiple-choice test covering the specific and detailed content of the stories. Subjects were thanked for their cooperation and the purpose of the study was briefly explained.

The multiple-choice test was scored and items were separated into groups of recapped and non-recapped. Eleven items represented the recapped portion of the program and 17 items covered the non-recapped stories. The free-recall transcripts were scored from a list of keywords from each story. Exact wording was not necessary since we were interested in measuring memory for the 'gist' of each story. The free-recall responses were also divided into recapped and non-recapped categories.

RESULTS

Multivariate two-way analysis of variance was used to test for significant effects in the factorial design mentioned earlier. The analysis included four dependent measures: recapped and non-recapped multiple-choice items and recapped and non-recapped free recall responses. The means and standard deviations of these measures are presented in Table 1.

When the total design was tested, there was a significant two-way multivariate interaction ($F(20, 3466)=1.60$, $p<.05$) a significant multivariate main effect for age group, ($F(8, 1734)=18.43$, $p<.001$) and a significant main effect for recapped conditions ($F(8, 1734)=22.98$, $p<.001$). The univariate effects for each dependent variable and subsequent post hoc analysis will be discussed in the following sections.

Interaction Effects

Upon examining the univariate tests of significance, it was discovered that only one dependent variable contributed to the significant multivariate interaction reported above. The non-recapped multiple-choice test (i.e. test items from the non-recapped story items) was found to have produced a significant

TABLE 1

Means and standard deviations

	Recapped Items				Non-Recapped Items			
	FR[1] (4 items)		MC[2] (11 items)		FR (6 items)		MC (17 items)	
Conditions	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Secondary I								
No Recap	1.74	.98	5.52	1.98	2.21	.98	8.50	2.15
Oral Recap	2.40	1.02	5.50	2.07	1.72	1.06	8.13	2.65
Graphic Recap	2.33	1.06	5.16	1.93	1.62	1.01	7.87	2.11
Secondary V								
No Recap	1.99	.95	6.70	1.84	2.71	1.27	10.03	2.47
Oral Recap	2.66	.95	6.33	2.10	2.06	1.11	9.70	2.32
Graphic Recap	2.74	.96	6.56	1.88	1.96	1.25	9.88	2.69
College								
No Recap	2.12	.97	6.35	2.17	2.82	1.14	8.92	2.27
Oral Recap	2.71	1.02	5.61	1.82	2.33	1.14	9.81	2.31
Graphic Recap	2.81	1.03	5.64	2.17	2.37	1.22	10.11	2.18

[1]Free Recall [2]Multiple Choice

univariate interaction ($F(4, 871)=4.31$, $p<.01$). It was found, through post hoc analysis of the means, that the college-age group performed significantly better ($p<.05$) in the two recap conditions relative to both Secondary I and Secondary V subjects. That recaps would aid in the retention of the content from the non-recapped portions of the program is a seemingly anomolous result that is difficult to explain on the basis of past research. It appears that for the college sample, recaps at the end of the news program had a positive effect on the retention of non-recapped story content, whereas for the younger subjects an opposite but less statistically reliable effect was produced.

Age Group Effects

In exploring the significant multivariate effect for age, it was found that all dependent measures were significant ($p<.0001$). For both free-recall measures (recapped and non-recapped) the means appeared in ascending order by grade levels (see Table 1). However, for the multiple-choice test, Secondary I produced the lowest mean and Secondary V produced the highest mean with the college-age sample falling between. It is important to note,

though, that the only significant difference occured when Secondary V and College subjects were collectively compared with Secondary I subjects. This is a predictable result and may be accounted for, in part, by unequal differences in the ages of the groups tested. Secondary V and College subjects were the closest in age and would be expected to perform similarly.

Recap Condition Effect

Only two of the four dependent measures (both free-recall measures) emerged as significant from the univariate test for main effects across the recap condition variables (i.e. no recap, oral recap and graphic recap), although the recapped multiple-choice test was marginally significant ($p<.06$). The free recall test for recapped story items was significant ($F(2, 871)=43.41$, $p<.0001$), as was the free-recall test for non-recapped story items ($F(2, 871)=22.87$, $p<.0001$). Without going further, it was obvious from these results that a different pattern was produced by the multiple-choice test as compared with the free-recall test. It appears that recapping does not provide the viewer with greater memorial access to the specific factual details of the news program.

In order to determine the locus of the significant effects mentioned above, the treatment means for both free-recall measures were compared using Scheffe's technique for multiple comparisons. For the free-recall recapped test, it was found that a significant effect was produced ($p<.001$) when the recapped treatment conditions were combined and compared with the non-recapped condition. This would suggest that recapping does have a positive influence on memory for story items which were recapped.

To determine if the opposite was true, that recapping reduced recall for those items that were not recapped, a Scheffe analysis similar to the one described above was conducted. The two recapped means were combined and compared with the non-recapped mean. As expected, this comparison was significant ($p<.01$) suggesting a reciprocal relationship between recapped and non-recapped items. Remembering more recapped items apparently reduced the number of non-recapped items recalled. The relationship of recapped and non-recapped free-recall responses is quite evident in Figure 1. It is obvious that recapping has a pronounced effect upon recapped items and a diminished effect upon non-recapped items. For the non-recapped condition, the distribution of responses is roughly proportional to the distribution of recapped and non-recapped stories, (i.e. 4 stories were recapped and 6 stories were not).

Since the preceeding analysis was conducted across like-story items (either recapped or non-recapped) it is impossible to appreciate how each story fared in its presentational location. Figure 2 shows how responses to the free-recall measure were

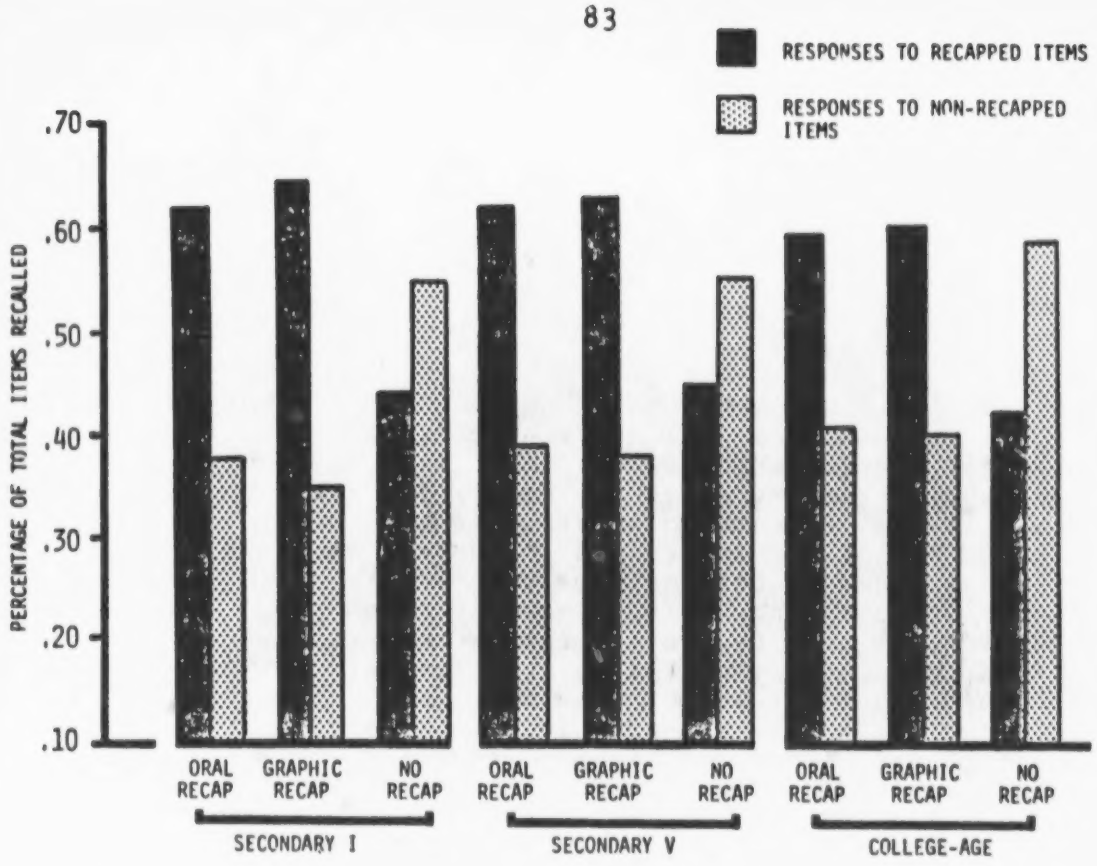

FIGURE 1 Percentage of total news items recalled by item type, treatment and age level

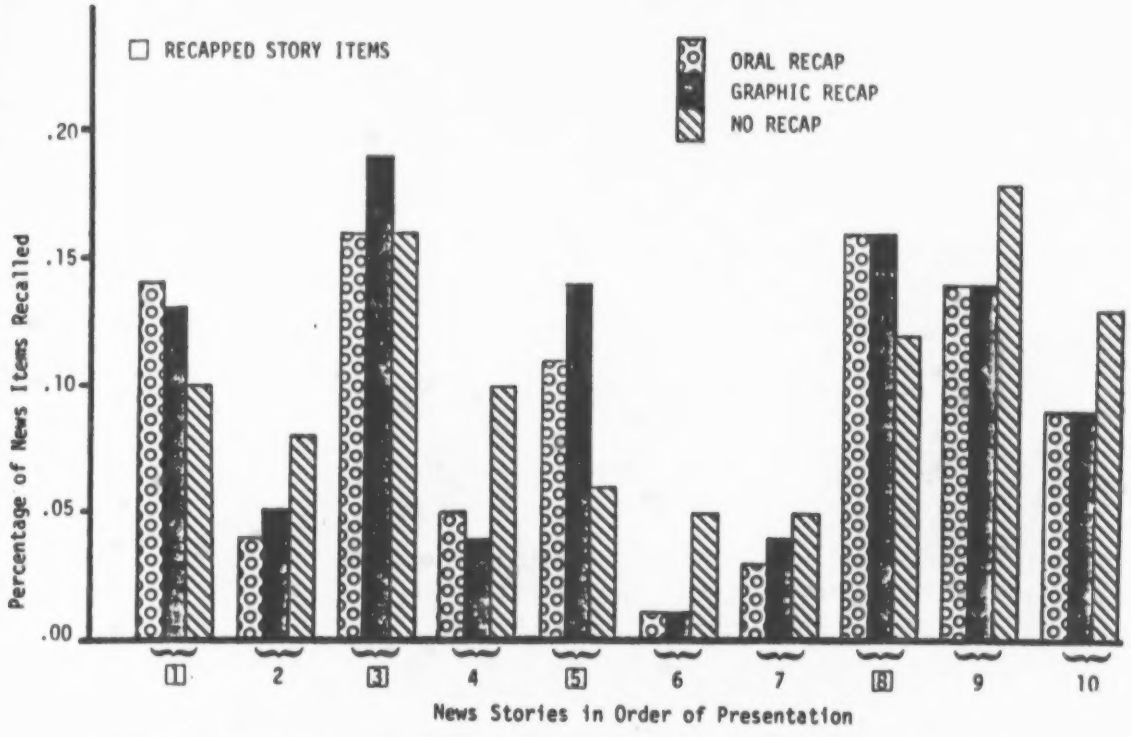

FIGURE 2 Percentage of news items recalled across the presentational sequence of the news program

distributed across the entire news program. It is obvious from this graph that responses to the free recall measure were not equally distributed across the presentational sequence. There is evidence in all of the treatment conditions of a serial order effect, particularly when the middle items (i.e. 5, 6 & 7) are compared with the final items (i.e. 8, 9 & 10).

DISCUSSION

The results of this study support the notion that recapping, as operationally defined here, directly affects the retention of high-level story information (i.e. the 'gist' of the story) without reliably altering subjects' memory for story detail. Although a two-way interaction between the treatment and age conditions on one of the dependent measures, the resulting pattern of means did not conform to expectation. In fact, it is difficult to understand how this interaction occurred. Another aspect of the study which failed to produce the predicted result was the finding of no significant differences between the recapped conditions. It is possible that the inter-treatment difference (i.e. oral recap and graphic recap) was too subtle to produce any reliable differences in mean responses.

One of the obvious questions arising out of these data concerns the differences in findings on the two dependent measures. One would expect similar results if the measures represent sampling of the same memory construct at different levels of specificity. Part of the reason for the differences may relate to underlying differences in the two measures. Since the multiple-choice test provides cues to recall (it is actually a recognition test) thereby specifying the content sampled, differences in treatments may have been too subtly represented to be detected. A free-recall measure of specific information retention might have produced a substantially different picture of the hypothesized differences.

It is also possible that the explanation for these data lies in the differential nature of general and specific information. As mentioned earlier, prior research with prose summaries, inserted questions and even pictorial supports has tended to support a localizing effect for these adjuncts. That is, subjects tend to recall adjunct-related information best. Other information not related to the adjuncts is recalled in a manner similar to groups who receive the text without the adjuncts. Since only top-level story content was included in the recaps, it is not surprising that a test intended to measure the 'gist' of story recall produced significant results.

Although serial order was not a manipulated variable in this study, it would be misleading to ignore it. For all age groups and on both measues, we found a dramatic recency effect and a

somewhat less dramatic primacy effect. The free recall data suggest, however, that recapping can substantially shift the locus of recall in favor of those story items appearing in a central position in the news program. However, the effects of story placement remained dramatic even for the recapped treatments, and a more profitable strategy might involve combining natural order effects with recapping to produce even more significant memory gains. The question of which items to select for recapping is, of course, of great importance but must be left for others to consider.

In generalizing these results to the design of instructional materials, 'what to recap and review' is of special significance, since presumably most of the content of such programs is important. Selecting particular information for reiteration should only be done after the content has been carefully and thoroughly analyzed. Content review may be more necessary for externally-paced media like television than it is for learner-paced materials such as print, since in the former case the learner is less able to apply individual processing and recall strategies such as selective re-reading and underlining. As is often the case with research, more questions are left unanswered than answered. For instance: how much content can be recapped without the recap itself producing an excessive memory overload? What is the explicit relationship between recall and item saliency? How are recapping and review strategies affected by other common production techniques such as pictorial support and film or video inserts? These and other related questions can only be answered through continued research activity. For the time being, we can say with some assurance that, under conditions similar to those explored in this study, a very simple and inexpensive technique such as recapping can serve to focus a viewer's attention on particular program content.

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Dr. Robert Bernard and Dr. Gary Coldevin are Associate Professors, in the Department of Education at Concordia University, Montreal.

LONGITUDINAL EFFECTS OF TELEVISION IN THE NORTH: A CROSS-CULTURAL COMPARISON

Gary Coldevin & Thomas Wilson
Concordia University
Montreal

ABSTRACT

This paper focuses on the longitudinal effects of southern television relayed via satellite into the predominantly Inuit community of Frobisher Bay, located on the southern portion of Baffin Island, North West Territories. Comparisons are made among three unique groups, namely Euro-Canadian adolescents, Inuit adolescents resident in Frobisher Bay, and Inuit adolescents from settlements scattered throughout the Eastern Artic. The Euro-Canadian students from the Arctic television community in this case served as a control or reference group with which to gauge the effects of television upon the two distinct Inuit samples.

Data from the original baseline survey, conducted in 1974, are compared with that generated by a comparable survey instrument administered in 1980. The discussion will centre on the following indices:

1) television availability, program ratings, preferred types of programming, and preferred language for nothern broadcasting,
2) knowledge of facts about Canada;
3) awareness of international and national issues;
4) dominant international and national information sources;
5) socio-economic orientations with respect to occupational, educational, and travel aspirations, preferred employment locations, and evaluation of Inuit versus southern life-style;
6) leisure-time activities;
7) internal locus-of-control levels.

The results are discussed within the context of the newly created Inuit Broadcasting Corporation and its potential counterweight role in stemming the negative psychological effects associated with modernization.

INTRODUCTION

The Canadian Eastern Arctic provides unique research possibilities for those interested in probing the progressive sociocultural influences of, until very recently, essentially one-way

television flow from the south. The CBC network service is now available via Anik satellite to even the smallest communities in the Northwest Territories, although the most prominent exception, Igloolik, continues to resist its introduction. The blanketing of television across the north and in most settlements presently allows a comparative analysis of the medium's influences by contrasting sample responses from relatively recent television communities with respondents from the long-established 'television town' of Frobisher Bay on southern Baffin Island.

Frobisher Bay provides a particularly opportune setting for such a comparison through the institution of the regional high school, the Gordon Robertson Educational Centre. Inuit students come from all over the Eastern Arctic to complete their secondary studies under the direction of the Territorial Department of Education. They study together with resident Frobisher Bay students who include local Inuit adolescents as well as Euro-Canadians.

Frobisher Bay is furthermore unique in the Eastern Arctic for being a television-saturated community. Coldevin (1975) established the ubiquity of television sets in Inuit homes within a one-year period following the availability of full service CBC television (averaging 16 hours daily or 112 hours per week) during April, 1973. The seemingly deleterious effects of viewing the cultural 'output' of the dominant Southern society included an apparent estrangement of adolescents from parents in terms of 'accepted' peer group language, role models, occupational preferences and desired working locations, and travel aspirations (Coldevin, 1977). The present study conducted during November, 1980 sought to determine the developmental character of these and other phenomena in the six-year interim since the 1974-75 study.

One of the most striking changes since 1974 was the increase in television signals available to viewers in Frobisher Bay. In addition to the already-chronicled CBC Northern Service, which offers the total range of CBC network programming plus one hour per week of Inuit language (Inuktitut) broadcasts, several other channels compete for viewers' attention. Ted Turner's 'Super Station', WTBS in Atlanta, Georgia is received directly from the satellite by those who have the necessary receiving dishes. Similarly, 'Home Box Office' out of Chicago brings all the latest movies into the community. On a semi-private level, a local entrepreneur broadcasts movies and features which one may receive for the price of a de-scrambling unit.

The most interesting development in broadcasting in the North, however, has been the establishment of the Inuit Broadcasting System (now Inuit Broadcasting Corporation). Begun in September, 1980, IBS, known locally as 'Inukshuk' was funded by

the Canadian Departments of Communications and Indian and Northern Affairs to provide an initial nine months of predominantly Inuit-language programming. One may consequently characaterize the array of programming available in Frobisher Bay at the time of the current study as very wide indeed.

Focal Points of Longitudinal Analysis

As in the previous baseline sampling, the primary variables examined included:

1. most and least preferred television programs;
2. knowledge of facts abut Canada;
3. awareness of international and national issues;
4. dominant international and national information sources;
5. socio-economic orientations with respect to occupational aspirations, travel aspirations, and evaluation of the Inuit versus southern life-style;
6. leisure-time activities.

An additional measure consisted of a locus-of-control inventory. Locus-of-control is conceived as a descriptor of the perceived control one exercises over one's life. A reliance on fate, a feeling that one is powerless to influence events and that control resides elsewhere than in the self (i.e., a low sense of control over one's destiny) is termed 'external' locus-of-control. The converse, 'internal' locus-of-contro, implies having control over one's lifestyle and destiny. Our instrument consisted of eleven items each of which asked respondents to choose either an external or internal orientation to the issue in question. Patterned after Rotter (1966), Coleman (1966) and Nowicki-Strickland (1973), the final instrument was adapted for language simplicity following the practice of Lonner and Forbes in Alaska (1980).

It was hypothesized that Euro-Canadian students would display higher internal locus-of-control scores than either of their Inuit counterpart groups from Frobisher Bay or the outlying Baffin Island settlements. Both the education system and television signals, for the most part, were harmonious with Euro-Canadian cultural values and presented no problems with either assimilation (education) or acculturation (television). And since television had been in Frobisher Bay longer than in the outlying settlements, in some of which network television is very recent (ca. 1980), it was hypothesized that Inuit students from Frobisher Bay would have a significantly lower internal locus-of-control scores than their settlement counterparts. This would also be consistent with Lonner and Forbes' recent Alaskan findings.

The subjects were 184 students at the regional high school in Frobisher Bay. Of this number, forty-five were Euro-Canadian,

sixty were Inuit adolescents residing in Frobisher Bay, and seventy-nine were Inuit from Eastern and Central Arctic settlements.

RESULTS

Program Ratings

Two programs accounted for the majority of favourite programs mentioned among the Inuit samples: THREE'S' COMPANY (16%) and HAPPY DAYS (14%). HOCKEY was the third most popular (9%) while soap operas (DALLAS & EDGE OF NIGHT at 8% respectively) accounted for 16%, a finding that corresponded closely to Grantzberg & Steinbring's (1979) study with Indian communities in Northern Manitoba. The Inuit programs generated by the Northern Service of the CBC rated not a single mention, nor did 'OUR WAYS', a Western Canadian Indian 'Dene'-oriented program. The Inukshuk network, however, did merit two mentions (less than 1%). Euro-Canadian ratings were remarkably similar with DALLAS, HAPPY DAYS and HOCKEY respectively, ranked as the top three programs. The preference therefore, appears to be for situation comedies and fast-paced domestic series among all three samples.

As in the previous study in 1974, the least favourite programs fell into the 'talk-show' category. Forty-percent of the programs mentioned as least favourites were classifiable as either news, public affairs, interviews, and/or talk shows. The Inukshuk Network must be included in this classification (2 mentions) since much of its programming was of this nature (Valaskakis, Robbins & Wilson, 1981).

Knowledge of Facts About Canada, International and National Awareness

Information levels were assessed by an inventory of questions asking for general knowledge of Canada, as in the 1974 survey. Students were asked to identify the Prime Minister, the number of Provinces, the three main political parties, the Capitals of Canada and of the Northwest Territories, and Canada's two official languages. The results indicated that the settlement group ($X = 5.86$) were significantly more knowledgeable about these items than the Frobisher Bay group ($X = 4.33$). The Euro-Canadians ($X = 6.58$) however, scored significantly higher than either Inuit group.

The settlement students were also proportionately more able to identify international and national stories current in the news than their television town Inuit counterparts (Table 1). A greater proportion of the Frobisher Bay group replied 'Don't Know' or even failed to reply to these questions.

Television continued as the major source of information for all of the students sampled about national and international issues,

TABLE 1

Awareness of international issues

	EC %	IF %	IS %
Don't know/uniquely local issues identified	4	45	23
International issues identified	96	55	77

N.B.: EC sig. < than IF & IS; IS sig. < than IF

Awareness of national issues

	EC %	IF %	IS %
Don't know/uniquely local issues identified	4	60	28
National issues identified	96	40	72

N.B.: EC sig. < than IF & IS; IS sig. < than IF

EC = Euro-Canadian
IF = Inuit-Frobisher Bay
IS = Inuit-Settlements

but was considerably lower than the figures generated during the 1974 survey (Table 2). Radio remains, for the settlement group, the second primary source of information, a situation which may result from the relatively large amount of Inuit-language programming broadcast by the CBC northern radio service. One of the more interesting differences between the two Inuit samples is that of the Church's position as the second major source of information for the Frobisher Bay students for both international and national issues. This is possibly a hold-over from the era of heavy ecclesiastical involvement in the region.

Socio-Economic Orientations

Occupational aspirations among the students reveal the possible perceptions that each ethnic group may have of its own social mobility. Respondents were asked what they thought would be the most interesting job(s) to have, as well as the job they actually expected to have upon leaving school. A significant proportion of the combined Inuit sample (15%) reflected more uncertainty about their employment future than did the Euro-Canadians ($X = 27.76$, $df = 1$, $p < .001$). Opinions among the

TABLE 2

Dominant sources for awareness of international issues

Rank Order	EC(%)	IF(%)	IS(%)
1	Television (31)	Television (21)	Television (29)
2	Radio (18)	Church (18)	Radio (15)
3	Teachers (18)	Family (17)	Teachers (15)
4	Press (17)	Radio (12)	Press (13)
5	Family (5)	Friends (11)	Friends (11)
6	Friends (2)	Press (7)	Family (6)
7	Textbooks (2)	Teachers (7)	Books (3)
8	Misc. (7)	Misc. (7)	Misc. (8)

Dominant sources for awareness of national issues

Rank Order	EC(%)	IF(%)	IS(%)
1	Television (36)	Television (23)	Television (32)
2	Radio (21)	Church (14)	Radio (15)
3	Press (20)	Radio (13)	Teachers (14)
4	Teachers (17)	Family (12)	Friends (12)
5	Family/Friends(2)	Teachers (11)	Press (9)
6	Misc. (4)	Press (11)	Family (7)
7	-------	Friends (6)	Misc. (11)
8	-------	Misc. (10)	-------

Inuit groups were remarkably similar on this point, indicating that this uncertainty pervades the Inuit student community. The more interesting comparison noted was the tendency of both Inuit groups to opt for about 30% professional occupations, as opposed to 70% of the Euro-Canadians. These results are not surprising given the models that each of the groups has around them and those that are presented on television. Most of the parents of the Euro-Canadian students in the community occupy professional or managerial positions. By contrast, the parents of the two Inuit samples are usually hunters and trappers. Those that do have jobs work in either blue or white collar positions.

Also of considerable interest in this section of the instrument, was a question which asked respondents where they would prefer to work. A significant portion (37%) of the television town Inuit adolescents indicated preferred employment locations to be in southern Canada. This was somewhat attenuated from the 1974 survey (in which 47% preferred southern locations) but it is

still considerably higher than the stance taken by settlement students on both surveys (74% preferring Northern Arctic work locations in both cases).

Although the 1974 surveys discerned differences in travel aspirations between television and non-television groups, there is no significant difference among Inuit groups in the 1980 survey. This was primarly due to a reduction of Frobisher Bay students' preferences for a Southern or extra-Canadian destination as opposed to a regional Arctic location (67% versus 33% respectively). A similar levelling of perception appears to occur, in that both Inuit groups hold the same opinions as to the relative merit of the Inuit life-style versus that in the south, as in fact do the Euro-Canadians (Table 3). One might attribute ths levelling tendency to television's property of displaying the problems of life in the South that are also troublesome in the North.

TABLE 3

Rating of Inuit versus southern life style

Rating	EC %	IF %	IS %
Inuit better	20	39	36
Inuit worse	31	23	25
No difference	49	38	39

Chi = 4.46, df = 4, no significant difference

Leisure time Activities

The students' leisure-time activities as shown in Table 4 reveal substantially different patterns of out-of-school time allotments. Television is the one most frequently cited activity by all three groups, although it should be noted that collectively the Settlement sample spends more time in hunting/fishing and arts and crafts than TV viewing. They also spend more time in radio listening than both Frobisher Bay groups combined. This may be explained by noting that, since Frobisher Bay is not their home, they may simply have more time to listen to the radio. Radio was cited by this group as the second major source after television for information on Canada and the world. They also bring with them from the Settlements greater radio-listening behaviour. This may of course change considerably as television becomes prominent in their communities as well.

TABLE 4

Primary leisure activities

Activity	EC %	IF %	IS %
TV viewing	46	46	34
Radio listening	3	5	13
Reading books	11	5	12
Reading press/magazines	5	4	5
Engaging in hobbies	18	7	13
Hunting or fishing	7	22	14
Sewing	3	11	6
Sports	7	--	3

Despite these relatively high viewing patterns, television was cited only half as frequently in 1980 as a leisure-time activity, as in 1974. This suggests that the 'novelty' effects noted in the early years may have diminished somewhat. Such a tendency was also noted in Rankin Inlet by Watson (1977).

Locus-of-Control

Table 5 shows the means for each group on the locus-of-control variable. The scores on each item were summed on a scale of internality. A one-way analysis of variance revealed significant differences among the three groups ($F(2,181=14.85)$, $p < .001$)) and a subsequent Newman-Keuls multiple-means comparison test showed the internal locus-of-control score accrued to the Euro-Canadians to be significantly higher than either of those of the two Inuit groups. Settlement students, however, were significantly more 'internal' in their locus-of-control than their Frobisher Bay counterparts. The data thus support the hypotheses generated.

TABLE 5

Internal locus-of-control comparisons

($\bar{X}$ Score)		
EC	IF	IS
8.47	6.65	7.29

EC sig. < than IF & IS
IS Sig. < Than IF

No differences were detected in scores as a result of the sex or age of the subjects. The differences uncovered appear to be primarily derived from ethnic background and an urban as opposed to rural (settlement) home location.

DISCUSSION

The novelty effects of television observed during the first survey in 1974 appear to have dissipated considerably. Even so, television viewing remains the primary leisure-time activity for adolescent Inuit. Its influence on providing awareness of international and national issues appears limited, however, and its main effects appear to lie in maintaining acculturation levels toward Euro-Canadian structures while simultaneously undermining Inuit adolescents' internal locus-of-control.

The results of the present study cannot be isolated from the fledgling Inukshuk Television Project. The entire raison d'etre of the project was built around the desire to preserve the Inuit culture perceived as being under attack (Valaskakis, Robbins & Wilson, 1981). The most powerful influence, in a succession of outside influences to have impinged upon the Eastern-Arctic Inuit prior to television, has been the educational system. And with the arrival of network television an array of cultural dissonant material was presented to people who had only the most peripheral concern with it. The program preferences enumerated in this study suggest further that the entrenchment of CBC Network Television in Frobisher Bay will become common across the Arctic. Indeed, as of this writing (Autumn 1982), few communities in the North remain television-free. Television is the most common leisure-time activity for young people, and school is the most common non-leisure activity. The effects of such a configuration on a culture that is at once unique, and, as is common with all cultures, one generation from extinction, must generate concern. The recent licensing of cable-TV distributors to operate in the Canadian North will add to the existent television saturation in Frobisher Bay. The present trend toward expansion of these services will continue as long as suppliers can count on their profitability. Inasmuch as this seems assured, the inflow of southern culture will continue unabated for some time.

The Inuit people of Canada have never had any control over the external forces which have spread out towards them. Until the last century their most effective insulator was geography. The rise of technology has brought them into direct contact with the South. Its humanitarian impetus notwithstanding, education served to penetrate the cultural insulator, and television appears to be having an analogous effect. Although its initial efforts may not be highly successful among the young, the advent of the Inukshuk Project seems to be an effort to use the medium

instead of fighting it. Unless the production standards approach those of its southern competitors, however, this study suggests that television's role as a cultural refuge is likely to be limited.

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Dr. Gary Coldevin is Associate Professor in the Department of Education at Concordia University, Montreal.

Thomas Wilson is currently completing his PhD. in the same university.

IMPACT OF 'SHOGUN' ON NATIONAL STEREOTYPING AMONG AMERICAN VIEWERS OF JAPANESE AND NON-JAPANESE ANCESTRY

Clayton J. Vollan
East-West Center
Honolulu, Hawaii

ABSTRACT

During one week in September 1980, an estimated 125 million viewers watched the mini-series, 'Shogun'. The program presented the fictional adventures of a shipwrecked English sea-pilot adjusting to life in feudal Japan. The third segment of this 12-hour production drew 75 million viewers, making it the second most popular television program in history. This study examined the impact of 'Shogun' on a Honolulu audience, to compare responses of Americans of Japanese ancestry with those of non-Japanese ancestry.

A five-page questionnaire was mailed to a random sample of 200 subjects of Japanese ancestry and 200 subjects of non-Japanese ancestry so as to arrive on the day following the final segment of the program. While the questionnaire probed a number of issues, this paper will report primarily on the section concerning the subjects' views as to how the program would influence general views of the Japanese. This section consisted of 84 adjectives, ranging from AGGRESSIVE to WITTY. The list of adjectives or 'verbal stereotypes' used in the questionnaire was first developed by Katz and Braly (1935) and has been used frequently since for studying national racial stereotyping. In the present study, subjects were asked to check those adjectives which they thought stated how "this program is likely to influence Americans to view the people of Japan."

Of the 84 adjectives from which the subjects could choose, only 14 were checked by over 50% of the total subjects who responded. In descending order of the percent of the subject's response they were: LOYAL TO FAMILY TIES, FAITHFUL, COURTEOUS, TRADITION LOVING, CRUEL, EXTREMELY NATIONALISTIC, NEAT, AMBITIOUS, ARTISTIC, REVENGEFUL, QUICK TEMPERED, INTELLIGENT, ALERT, and ARROGANT. Of these adjectives, 4 were reported significantly more frequently by the sample with Japanese ancestry, but by less than 50% of the overall sample. These 3 adjectives were PRACTICAL, SENSITIVE, and CONSERVATIVE.

Thus, although all subjects reported that 'Shogun' had more likely positive impacts than negative, those subjects of Japanese ancestry reported likely positive impacts at a statistically significant higher frequency for seven attributes, all of which are highly positive in nature.

INTRODUCTION

Only once before in the history of American television has the public shared so completely in a program viewing experience as during the five consecutive days in September 1980, when they witnessed 'Shogun', the story of a shipwrecked English sea-pilot adjusting to life in feudal Japan. The National Broadcasting Company, who produced 'Shogun' in association with Paramount Television, showed the best prime-time ratings in NBC's history. It was estimated that 125 million viewers watched all or part of the 12-hour production. Only one program in history, 'Roots' shown in 1977, drew more viewers than 'Shogun'. The estimate for 'Roots', based on its ratings, was that 130 million viewers followed all or part of that program. The most popular portion of 'Roots', the concluding segment, drew 80 million viewers, making it the most popular single program in history. In comparison, 'Shogun''s third segment was its most popular, with 75 million viewers.

Like 'Roots', 'Shogun' could be expected to have some impact on viewers' attitudes, because of a) the sometimes strongly emotional nature of the program content, b) the sometimes strongly emotional nature of the program content, c) the sometimes strongly emotional nature of the program content, and d) the amount of time many viewers spent viewing the program. A consistent finding of research in learning is that amount of learning increases as time engaged in contact with the learning materials or situation increases. In addition, we know that more emotional content, evoking strong feelings in viewers, will usually have a greater impact on attitudes of viewers than will bland or unemotional content. Thus, both because of the content of the program and because of the many hours spent by viewers in contact with that content, it could be expected that the program would have an impact on viewers.

The author of this study works with international problems, particularly those which can best be addressed through collaborative efforts between individuals or institutions in Asia, the Pacific and the United States. Thus, the author wished to know what the mini-series 'Shogun' might teach about persons from another culture. Could this fictional story about an Englishman and other Westerners in the Japan of long ago be expected to have an impact on attitudes toward Westerners or Japanese people in the contemporary world? How would the content of 'Shogun' appear to American viewers of Japanese ancestry in comparison to American viewers of non-Japanese ancestry? It was hypothesized that subjects of non-Japanese ancestry would expect the program to have more positive impact on viewers than would viewers of Japanese ancestry.

METHOD

The sample for this study was drawn from the Honolulu telephone directory. Income among residents of Japanese ancestry and those of non-Japanese ancestry is not sufficiently different as to suggest that telephone subscribership is in any significant way different among the groups being sampled. Telephones are subscribed in 96.8% of Honolulu dwellings. A random numbers list was used to select names from the directory having either a Japanese surname or a non-Japanese surname. A sample of 200 names was drawn for each sample; Sample 1, names denoting non-Japanese ancestry and Sample 2, names denoting Japanese ancestry.1

The questionnaire developed for this study was designed to shed light on a number of issues. The questionnaire had five pages and used a variety of approaches, including Likert-type scales, open and closed-ended questions and a number of demographic items. Subjects were asked to respond to items asking about most and least admired characters, about character evaluations as to the degree of positive and negative aspects of personality shown by chief characters, and (from those who read the novel 'Shogun') how well the story was adapted to presentation on television. A number of items asked specific questions regarding the subjects' opinions about the possible value of this kind of television program.

An especially important section of the questionnaire asked the subjects to consider how "this program is likely to influence Americans to view the people of Japan." This section consisted of 84 adjectives describing character traits ranging from AGGRESSIVE to WITTY. The list of traits or verbal stereotypes used in the study was developed by Katz and Braly (1933) during their pioneering study of verbal characterization of ten racial and national groups by Princeton undergraduates. Since that time, the so-called 'Princeton norms' have been used in a number of studies and have yielded several measures of Americans' attitudes toward the Japanese and of other racial and national groups.

A useful addition to the 'Princeton norms' is a scale of favorableness of traits, which has been developed to measure the stereotyping of groups with improved accuracy. Karlins, Coffman and Walters (1967) had subjects rate the traits in a manner that yielded a five-point scale, thus a trait that was unanimously rated 'very favorable' would be assigned a value

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1A later paper will report on differences in responses found between audiences sampled in Seattle and in Honolulu. The Seattle study was carried out by Mary Ann Heller and Sheldon Harsel from the School of Communications at the University of Washington.

of 2, while a trait that was unanimously rated 'very unfavorable' would be assigned a value of -2. 'Brilliant' was the most favorable trait with a mean value of 1.70, while 'cruel', the most unfavorable trait, had a mean value of -1.80. Thus, a 'favorableness value' was arrived at for each of the 84 traits.

Frequencies of all traits as reported by subjects of both samples were listed for each sample and for the combined samples (Table 1). The frequencies were multiplied by the 'favorableness value' of traits from Table 1 following the procedures of earlier studies to obtain a value for each trait for each sample, and for each trait for the combined samples. Thus, each trait is represented under each sample, and under the combined sample by a <frequency x favorableness> new computed value. These values were totaled for the samples and for the combined sample to produce a frequency total for each and a <frequency x favorableness> total value for each sample and for the combined sample. Means were calculated for Sample 1 and Sample 2 based on the frequency of the observations and the value computed for the traits. These means were compared to determine whether their differences were statistically significant, and thus whether the hypothesis would be accepted or rejected. In addition, simple percentages of total subjects reporting all traits were determined, in order to discover which traits were agreed upon by the larger number of subjects. Traits were then listed, in order of frequency of selection, by percentage. Finally, the frequency of selection for each trait by the subjects in each sample was compared using appropriate statistical methods, to determine if any particular traits were selected more frequently by subjects of one sample as compared to the subjects of the other sample.

RESULTS

Total frequencies for Sample 1 and Sample 2 were calculated and total favorableness value were calculated. Means for the values for Sample 1 and Sample 2 were compared (Table 2).

Significance level was set at 0.01 and both sample populations were assumed to be normally distributed and to have variances that are unequal and unknown. Appropriate statistical t-test procedures were employed. It was determined that the null hypothesis would be rejected if $t > 2.576$. Calculations produced a value of t of 8.895, thus the null hypothesis is rejected and the hypothesis is supported. Subjects of non-Japanese ancestry reported that the program 'Shogun' would be "likely to influence Americans to view the people of Japan" in a positive way to a significantly greater degree than subjects of Japanese ancestry.

TABLE 1

Favorableness of terms in the Katz and Braly checklist

Adjective	M	SD	Adjective	M	SD
Brilliant	1.70	.680	Extremely nationalistic	.10	.892
Intelligent	1.61	.627	Conservative	- .06	.632
Honest	1.56	.611	Talkative	- .13	.775
Alert	1.44	.576	Impulsive	- .22	.750
Imaginative	1.39	.531	Ponderous	- .23	.654
Artistic	1.34	.669	Conventional	- .30	.614
Industrious	1.32	.598	Materialistic	- .45	.772
Kind	1.29	.564	Radical	- .45	.783
Faithful	1.23	.697	Argumentative	- .50	.728
Sportsmanlike	1.19	.638	Frivolous	- .53	.717
Efficient	1.18	.523	Suggestible	- .55	.726
Courteous	1.18	.561	Sly	- .58	.855
Generous	1.17	.707	Stubborn	- .58	.705
Ambitious	1.06	.727	Imitative	- .63	.715
Witty	1.01	.601	Naive	- .66	.637
Individualistic	1.01	.712	Pugnacious	- .73	.680
Sensitive	.99	.750	Suspicious	- .75	.722
Progressive	.99	.534	Evasive	- .83	.616
Straightforward	.96	.525	Loud	- .83	.624
Jovial	.92	.583	Superstitious	- .84	.761
Musical	.90	.618	Mercenary	- .88	.845
Neat	.86	.481	Ostentatious	- .89	.625
Persistent	.85	.638	Quick tempered	- .90	.664
Practical	.82	.523	Humorless	- .92	.718
Scientifically minded	.81	.699	Grasping	- .97	.790
Sophisticated	.74	.705	Boastful	-1.11	.567

(contd. on next page)

(TABLE 1, contd.)

Adjective	M	SD	Adjective	M	SD
Meditative	.59	.619	Quarrelsome	-1.11	.616
Loyal to family ties	.57	.643	Lazy	-1.12	.595
Pleasure loving	.46	.754	Gluttonous	-1.13	.580
Suave	.45	.706	Slovenly	-1.25	.651
Happy-go-lucky	.45	.816	Revengeful	-1.28	.640
Passionate	.41	.652	Arrogant	-1.30	.712
Sensual	.39	.728	Ignorant	-1.37	.676
Impassive	.32	.754	Physically dirty	-1.45	.666
Gregarious	.30	.834	Conceited	-1.50	.625
Tradition loving	.25	.703	Stupid	-1.59	.602
Methodical	.24	.670	Cowardly	-1.63	.590
Very religious	.23	.814	Unreliable	-1.64	.553
Quiet	.20	.548	Treacherous	-1.65	.577
Aggressive	.18	.984	Rude	-1.67	.538
Shrewd	.18	.847	Deceitful	-1.73	.568
Reserved	.12	.551	Cruel	-1.77	.624

TABLE 2

Frequency and favorableness value of traits as reported by non-Japanese and Japanese samples

Trait	Favorableness Value	Sample #1 Frequency	x Value	Sample #2 Frequency	x Value	Total Frequency	x Value
Aggressive	.18	23	4.14	21	3.78	44	7.92
Alert	1.44	25	36.00	22	31.68	47	67.68
Ambitious	1.06	25	26.50	29	30.74	54	57.24
Argumentative	- .50	7	3.50	7	- 3.50	14	- 7.00
Arrogant	-1.30	21	-27.30	25	-32.50	46	59.80
Artistic	1.34	34	45.56	17	22.78	51	68.34
Boastful	-1.11	5	- 5.55	9	- 9.99	14	- 15.54
Brilliant	1.70	7	11.90	7	11.90	14	23.80
Conceited	-1.50	3	- 4.50	11	-16.50	14	- 21.00
Conservative	- .06	21	- 1.92	11	- .66	32	- 1.92
Conventional	- .30	10	- 3.00	12	- 3.6	22	- 6.60
Courteous	1.18	36	42.48	29	34.22	65	76.70
Cowardly	-1.63	1	- 1.63	1	- 1.63	2	- 3.26
Cruel	-1.77	23	40.71	34	-60.18	57	-100.89
Deceitful	-1.73	12	-20.76	15	-25.95	27	- 46.71
Efficient	1.18	20	23.60	17	20.06	37	43.66
Evasive	- .83	9	- 7.47	6	- 4.98	15	- 12.45
Extremely nationalistic	.10	31	3.10	25	2.50	56	5.60
Faithful	1.23	30	36.90	35	43.05	65	79.95
Frivolous	- .53	1	- .53	2	- 1.06	3	- 1.59
Generous	1.17	6	7.02	9	10.53	15	17.55
Gluttonous	-1.13	2	- 2.26	3	- 3.39	5	- 5.65
Grasping	- .97	3	- 2.91	5	- 4.85	8	- 7.76
Gregarious	.30	3	.90	1	.30	4	1.20
Happy-go-lucky	.45	2	.90	1	.45	3	1.35
Honest	1.56	13	20.28	7	10.92	20	31.20

(contd. on next page)

(TABLE 2, contd.)

Trait	Favorableness Value	Sample #1 Frequency x Value	Sample #2 Frequency x Value	Total Frequency x Value
Humorless	- .92	15 -13.80	11 -10.12	26 - 23.92
Ignorant	-1.37	2 - 2.74	6 - 8.22	8 - 10.96
Imaginative	1.39	14 19.46	7 9.73	21 29.19
Imitative	- .63	6 - 3.78	7 - 4.41	13 - 8.19
Impassive	.32	12 3.84	7 2.24	19 6.08
Impulsive	- .22	4 - .88	11 - 3.52	15 - 3.30
Individualistic	1.01	3 3.03	4 4.04	7 7.07
Industrious	1.32	27 35.64	13 17.16	40 52.80
Intelligent	1.61	29 46.69	18 28.98	47 75.67
Jovial	.92	2 1.84	0 0	2 1.84
Kind	1.29	11 14.19	6 7.74	17 21.93
Lazy	-1.12	1 - 1.12	1 - 1.12	2 - 2.24
Loud	- .83	3 - 2.49	4 - 3.32	7 - 5.81
Loyal to family ties	.57	35 19.95	36 20.52	71 40.47
Materialistic	- .45	3 - 1.35	7 - 3.15	10 - 4.50
Meditative	.59	18 10.62	11 6.49	29 17.11
Mercenary	- .88	10 - 8.88	13 -11.44	23 - 20.24
Methodical	.24	16 3.84	15 3.60	31 7.44
Musical	.90	12 10.80	8 7.20	20 18.00
Naive	- .66	3 - 1.98	5 - 3.30	8 - 5.28
Neat	.86	29 24.94	26 22.36	55 47.30
Ostentatious	- .89	3 - 2.67	1 - .89	4 - 3.56
Passionate	.41	8 3.28	13 5.33	21 8.61
Persistent	.85	16 13.60	14 11.90	30 25.50
Physically dirty	1.45	0 0	1 1.45	1 1.45
Pleasure loving	.46	7 3.22	12 5.52	19 8.74
Ponderous	- .23	5 - 1.15	5 - 1.15	10 - 2.30
Practical	.82	22 18.04	12 9.84	34 27.88
Progressive	.99	5 4.95	10 9.90	15 14.85
Pugnacious	- .73	5 - 3.65	1 - .73	6 - 4.38

(contd. on next page)

(TABLE 2, contd.)

Trait	Favorableness Value	Sample #1 Frequency	Sample #1 x Value	Sample #2 Frequency	Sample #2 x Value	Total Frequency	Total x Value
Quarrelsome	-1.11	6	- 6.66	5	- 5.55	11	- 12.21
Quick tempered	- .90	24	-21.60	23	-20.70	47	- 42.30
Quiet	.20	20	4.00	16	3.20	36	7.20
Radical	- .45	8	- 3.60	8	- 3.60	16	- 7.20
Reserved	.12	19	4.18	18	3.96	37	4.44
Revengeful	-1.28	22	-28.16	26	-33.28	48	- 61.44
Rude	-1.67	3	- 5.01	10	-16.70	13	- 21.71
Scientific minded	.81	6	4.86	4	3.24	10	8.10
Sensitive	.99	23	22.77	10	9.90	33	32.67
Sensual	.39	14	5.46	8	3.12	22	8.58
Shrewd	.18	22	3.96	19	3.42	41	7.38
Slovenly	-1.25	2	- 2.50	1	- 1.25	3	- 3.75
Sly	- .58	11	- 6.38	18	-10.44	29	- 16.82
Sophisticated	.74	7	5.18	4	2.96	11	8.14
Sportsmanlike	1.19	5	5.95	7	8.33	12	14.28
Straightforward	.96	8	7.68	14	13.44	22	21.12
Stubborn	- .58	14	- 8.12	23	-13.34	37	- 21.46
Stupid	-1.59	0	0	2	- 3.18	2	- 3.18
Suave	.45	1	.45	1	.45	2	.90
Suggestible	- .55	2	- 1.10	4	- 2.20	6	- 3.30
Superstitious	- .84	15	-12.60	15	-12.60	30	- 25.20
Suspicious	- .75	15	-11.25	15	-11.25	30	- 22.50
Talkative	- .13	1	- .13	2	- .26	3	- .39
Tradition loving	.25	35	8.75	29	7.25	64	16.00
Treacherous	-1.65	13	-21.45	16	-26.40	29	- 47.85
Unreliable	-1.64	2	- 3.28	1	- 1.64	3	- 4.92
Very religious	.23	10	2.30	21	4.83	31	7.13
Witty	1.01	4	4.04	4	4.04	8	8.08
TOTAL		1011	366.84	970	107.07	1981	474.54

Fourteen of the list of 84 traits used in the study were selected by over 50% of the subjects (Table 3).

TABLE 3

Traits selected with a frequency of greater than 50% of the subjects

Trait	Percent Selected
Loyal to family ties	81.0%
Faithful	73.9
Courteous	73.9
Tradition loving	73.6
Cruel	64.8
Extremely nationalistic	63.6
Neat	63.2
Ambitious	61.4
Artistic	58.0
Revengeful	55.2
Quick tempered	54.0
Intelligent	53.4
Alert	53.4
Arrogant	52.4

Although some negative traits are reported by over 50% of the subjects, the comparison of means reported earlier in the study indicated that negative traits reported were overshadowed by the overall positive evaluation of the program's impact.

Among the traits reported by the subjects, only 7 traits were found to be selected more frequently by one sample over the other, with a difference that was found to be statistically significant. All of those traits were reported more frequently by Sample 1, the sample of non-Japanese ancestry. All 7 of the traits that were reported more frequently by the sample of non-Japanese ancestry, are strongly positive traits (Table 4).

This finding further supports the hypothesis that subjects of non-Japanese ancestry would regard the program 'Shogun' as likely to have a positive impact on American viewers' beliefs about the people of Japan.

CONCLUSIONS

The television mini-series 'Shogun' was reported by the subjects of this study to have a likely positive impact on other viewers.

TABLE 4

Traits selected more frequently by sample #1 compared with sample #2

(Non-Japanese Ancestry vs. Japanese Subjects)

Trait	Sample #1 N.J. Ancestry	Sample #2 J. Ancestry	Level of Statistical Significance
Artistic	34	17	.0001
Sensitive	23	10	.0021
Intelligent	29	18	.0094
Practical	22	12	.0159
Conservative	21	11	.0204
Courteous	36	29	.0296
Tradition loving	35	29	.0346

(corrected chi squares - statistical significance of at least .05 level)

However, subjects of non-Japanese ancestry reported a cluster of seven positive traits with a greater frequency than the subjects of Japanese ancestry, at a level that was found to be statistically significant. In addition, subjects of non-Japanese ancestry reported a mean favorableness of traits that was significantly higher than the mean for the sample of Japanese ancestry.

It appears that subjects of Japanese ancestry were more concerned that the events depicted in the program would lead other viewers to consider the people of Japan in a less positive way than were other subjects of the study. The author plans to further investigate the possibility that the degree of ethnicity, or cultural closeness to the nationality depicted, affects impact of such programming.

Both educational and commercial television producers should find the outcome of this study gratifying. It provides further evidence that a program can be highly entertaining, immensely popular, and yet be considered by the public to engender a positive view of members of another culture. The study also provides some evidence that the members of an ethnic group depicted on television may fail to see the degree of positive depiction that viewers not of their ethnic group may experience.

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Dr. Clayton Vollan is Assistant Director of the East-West Communication Institute in Honolulu, Hawaii.

TELEVISION VIEWING AND PERSONALITY NEEDS OF SOUTH AFRICAN ADOLESCENTS

D.P. Van Vuuren
Human Sciences Research Council
Pretoria, South Africa

ABSTRACT

According to the needs-and-gratifications approach, a person actively chooses programmes, articles and films and uses the content of this mass media material to gratify certain needs in him or herself. In this paper, results of a longitudinal study of the relationship between certain personality needs on the one hand and the television viewing behaviour and television programme preferences of adolescents on the other hand, are discussed. Based on a large scale South African study of the influence of television on school-going children, the data of approximately 2,000 adolescents, retested from their 12th to 18th year, are used. Multivariate statistical techniques, e.g. profile analysis, were used to analyze the data obtained by various psychometric instruments and questionnaires. The results indicate that certain relationships between personality needs of adolescents and television viewing patterns are statistically significant; that moderate viewing of television is associated with a relatively low level of tension and a high degree of social sensitivity, as well as with the gratification of affiliation and psychosexual needs. Certain kinds of programming are also related to certain psychological needs. Implications for producers and teachers are discussed.

INTRODUCTION

The question regarding the popularity of television is gradually becoming rhetorical as the following research results indicate. In the USA from 1970 to 1978, the average time that the household television set was on increased from 6.5 to 6.8 hours a day (Roberts & Bachen, 1981). Furthermore, more than 25% of mothers in a recent national sample of U.S. families reported that the television set was on for at least 9 hours a day (Newspaper Advertising Bureau, 1978, as recorded in Roberts & Bachen, 1981).

Even in South Africa, the last Western industrialized country to introduce television, the popularity of this mass medium is very high. Over 20% of a group of Standard 8 (Grade 10) pupils watched television for more than four hours a day during weekdays in the school term - that is, they watched from the beginning of the programmes at 6 pm till closing time at approximately 11 pm (Du Preez, 1980).

We were very fortunate in South Africa because the research possibilities were realized and exploited even before the introduction of television seven years ago. A series of research projects on television was launched by the Institute for Communcation Research of the Human Sciences Research Council. The largest of these projects, on the influence of television on school-going young people, constituted an investigation on a wide range of relevant matters.

The results which are discussed in this paper are concerned with an important aspect of the popularity of television, namely the relation between certain personality needs in adolescents and their viewing behaviour and programme preferences.

One of the more topical (and, I might add, fashionable) approaches to the study of mass media, is the uses-and-gratifications approach. This approach focuses mainly on the active role of the audience in the mass communication process. The concept of the media user as a passive victim is replaced by that of a person who is capable of actively choosing programmes, articles and films according to his or her own goals (Marais et al., 1981). According to Blumler, Katz and Gurevitch (1974), research in this area is concerned with:

a) the social and psychological origins of
b) needs, which generate
c) expectations of
d) the mass media or other sources, which lead to
e) differential patterns of media exposures (or engagement in other activities), resulting in
f) need gratifications and
g) other consequences, perhaps mostly unintended ones.

According to Dimmick, McCain and Bolton (1979) this description seems to imply a linear process in that the need fulfilments or gratifications derived from media or other sources affect the individual's life satisfaction or those gratifications which are derived from life in general.

One of the basic criticisms of this approach (see Becker, 1979, Swanson, 1977 & Marais, 1981) is the tendency to construct infinite lists of uses and gratifications. Most of the studies have been unremittingly media-centric in concentrating solely on media as sources of gratification. The lists of needs, therefore, centered around media (specifically television) - related terms such as A HABIT, FOR COMPANIONSHIP and TO FORGET. Consequently we know a great deal more about media-related needs (or gratifications) than about the roles of media in the larger process of need satisfaction (Dimmick, McCain & Bolton, 1979). Murray and Kippax (1979) found, in a survey of cross-national uses and gratifications studies, four basic clusters of needs

related to the self and personal identity, social contact, diversion and entertainment, and information and knowledge about the world. According to Blumler, three fundamental orientations towards the media exist: cognitive, diversion and personal. Despite a high degree of similarity in various lists (Roberts & Bachen, 1981) very few studies have used standardized psychological instruments to measure the needs of children or adolescents; most have related the data to television viewing patterns or to television programming.

Faber, Brown and McLeod (1979), have suggested that entertainment programmes on television may provide material which the adolescent can use to resolve certain developmental conflicts or tasks, such as accepting changes in one's body and developing a positive body image; developing more completely defined sex roles and learning about relationships between sexes; beginning to achieve economic and emotional independence (freedom from authority); preparing for future occupational roles; and developing civic competence.

Empirical evidence on the interaction between certain psychological characteristics (such as needs) and television viewing patterns and programme preferences should, as Avery (1979) has put it, "substantially increase our knowledge about adolescents and their use of the media" (p.68).

The aim of this study is therefore to investigate the relation between certain personality needs in adolescents and their television viewing behaviour and programme preferences.

METHOD

Sample and Instruments

Data used in this investigation were collected from 1974 to 1978. Pupils in provincial schools were involved on a country-wide basis. Questionnaires and psychometric tests were completed under the supervision of teachers trained by school psychologists. It was possible to use the data of approximately 2,000 adolescents. These pupils were in Standard 6 (Grade 8) in 1974, and were retested every year till they were in Standard 10 (Grade 11) in 1978. Language and sex distribution of the sample are indicated in Table 1.

A Biographical Questionnaire, a Television Questionnaire and the Group Personality Projection Test (GPPT) developed by Cassell and Kahn (1961) were used to collect the data (details available at HSRC). The Group Personality Projection Test gives an indication of the degree of anxiety-producing tension present in the individual, as well as the degree of activeness of certain psychological need states. It consists of 90 mulitple-choice items, requiring responses to stick-figure drawings portraying

TABLE 1

Distribution of sample

	Home Language		
	Afrikaans	English	Total
Boys	673	268	941
Girls	722	261	983
TOTAL	1395	529	1924

a widely diversified range of usual life activities, each with a minimal amount of situational structuring. The six fields of the GPPT are:

1. Anxiety-producing-tension. This field is concerned with obtaining an index of the anxiety-producing tension present in the individual.

2. Nurturance. This score measures the individual's inclination to give aid to others and to provide initiative in leadership or guidance.

3. Withdrawal. This score indicates the need to escape or run away from the situation or activity, and to avoid personal responsibilities.

4. Neuroticism. Here the score indicates the general inability to make sound and timely decisions, and a general need to remain indecisive.

5. Affiliation and psychosexual needs. The score is indicative of the needs for group membership and for psychosexual contacts.

6. Succurance. The results indicate the subjects' needs to seek aid and, in general, to play an infant role.

The validity and reliability of the instrument were researched in the USA and in South Africa (details available at HSRC), and the results were of such a nature that the GPPT is acceptable as a suitable psychometric instrument for the investigation.

EXPERIMENTAL DESIGN

To investigate the relationship between personality needs of adolescents on the one hand, and television viewing behaviour

and television progrmmme preferences on the other, longitudinal analysis methods were particularly suited to deal with the data collected over five consecutive years from the same pupils. Three methods were used to analyze the data: Analysis of Variance (ANOVA) of GPPT scores divided into quartiles; a Multivariate Analysis of Variance (MANOVA) on the programme preferences of the adolescents with the six fields of the GPPT as independent variables; and a profile analysis of the longitudinal data (GPPT scores on all six fields) (Profile analysis is a multivariate technique to analyze longitudinal data; see HSRC statistical research).

The sample was divided into language and sex groups after regression analyses and MANOVA had been done on the GPPT with socio-economic status, sex, home language, dwelling place and IQ as independent variables.

FINDINGS AND DISCUSSION

The Relation Between Certain Psychological Needs and Television Viewing

The results of the profile analyses and the analyses of variance are summarized in Table 2. Significant F values were found in various groups and fields of the GPPT, to some extent confirming the hypotheses that watching television and certain needs to interact with each other. It would be impossible to detail all the findings in this paper, so at the risk of oversimplifying the data this discussion will highlight only the more important results. The division of the total sample into four groups organizes the results somewhat, and the order of discussion of the groups will therefore be: Afrikaans-speaking boys; Afrikaans-speaking girls; English-speaking boys; and English-speaking girls.

Table 2 indicates that the profile analyses resulted in relations being found between television viewing of Afrikaans-speaking boys during weekdays and Fields 1 (tension) and 6 (succurance) of the GPPT; and between television viewing during weekends and Field 5 (affiliation and psychosexual needs) of the GPPT. These relations are of such a nature (see Van Vuuren, De Beer & Du Toit, 1982) that statistically significant differences between light and heavy viewers were found in the longitudinal data - that is, in the television viewing from 1976 to 1978. Adolescents who never watched television, or watched for less than half-an-hour a day during weekdays, Monday to Thursday, showed higher anxiety-producing tension than the moderate and heavy viewers (Field 1), and also a greater need to seek aid; in other words the light viewers were relatively more dependent on others (Field 6). It seemed that they tended to be less mature in their projections - especially at the end of their last school year (Grade 12), in spite of the fact that they had been

TABLE 2

Summary of results
(F according to Wilks A criterion)

Group split criterion	Test group	Significant results	Techniques
TV viewing during weekdays	Afrikaans-speaking boys	GPPT Field 1: p > F = 0.0096*	Profile analysis
		GPPT Field 6: p > F = 0.395**	
	Afrikaans-speaking girls	GPPT Field 6: p > F = 0.01**	
	English-speaking boys	ns	
	English-speaking girls	ns	
TV viewing during weekends	Afrikaans-speaking boys	GPPT Field 5: p > F = 0.0466**	Profile analysis
	Afrikaans-speaking girls	ns	
	English-speaking boys	ns	
	English-speaking girls	ns	
Total TV viewing	Afrikaans-speaking boys	ns	Profile analysis
	Afrikaans-speaking girls	ns	
	English-speaking boys	GPPT Field 1: p > F = 0.0422**	
	English-speaking girls	GPPT Field 2: p > F = 0.0501**	
1974-GPPT Quartiles	Afrikaans-speaking boys	GPPT Field 5: p > F = 0.0745***	Analysis of variance
	Afrikaans-speaking girls	ns	
	English-speaking boys	GPPT Field 2: p > F = 0.0428**	
	English-speaking girls	GPPT Field 3: p > F = 0.0657***	
		GPPT Field 6: p > F = 0.0231**	
1978-GPPT Quartiles	Afrikaans-speaking boys	ns	Analysis of variance
	Afrikaans-speaking girls	ns	
	English-speaking boys	GPPT Field 2: p > F = 0.03**	
	English-speaking girls	GPPT Field 6: p > F = 0.1165****	

*p < 0.01
**p < 0.05
***p < 0.10
****p < 0.11

less dependent than the other groups in the first three years of testing (two years without television, one year into the television era) (see Figures 1 and 2).

Another interesting fact that emerged was that the so-called moderate viewers (viewing more than half an hour, but less than three hours a day during weekdays Monday to Thursday) had the lowest score on tension and the highest score on independence in Grade 12, compared with the light viewers and heavy viewers. One can, therefore, argue that it might have been, according to Faber, Brown and McLeod's (1979) theory, that the moderate viewers among the Afrikaans-speaking boys used certain elements in at least some of the television programmes to help them cope with stressful situations (by means of modelling or catharsis), and with certain socializing situations (the need to be independent). The same situation was found in this group of boys with their weekend viewing time and their significant results on Field 5 (affiliation and psychosexual needs) (see Figure 3). In this respect, both the heavy (more than four hours a day viewing, during weekends) and the light viewers (no television viewing, or less than half-an-hour a day during weekends) had a greater need for group membership and belongingness, and for psychosexual contacts, than the moderate viewing group (more than half an hour, but less than four hours a day during weekends). The normal growth of the need for group belongingness (peer group relationships) as well as the need to

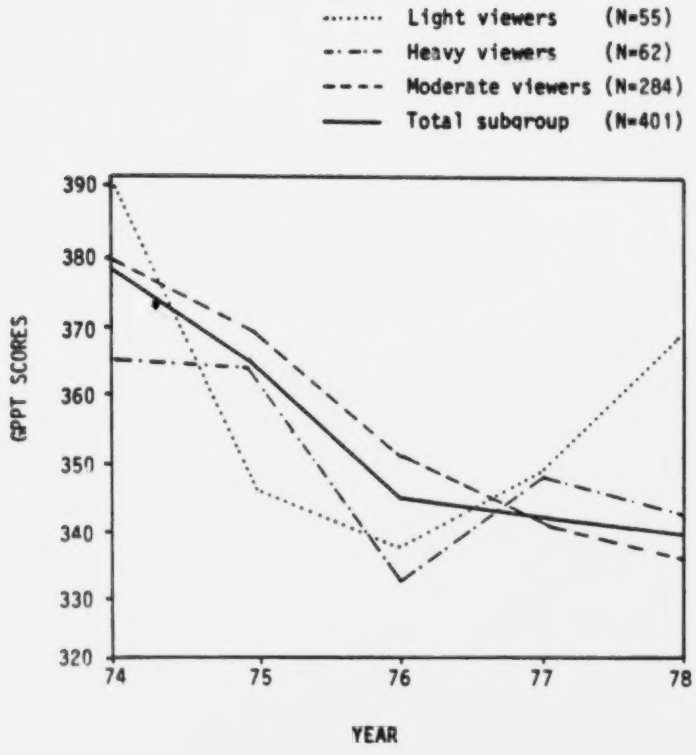

FIGURE 1 Profile of Afrikaans-speaking boys according to television viewing times during weekdays: field 1 of the GPPT (tension)

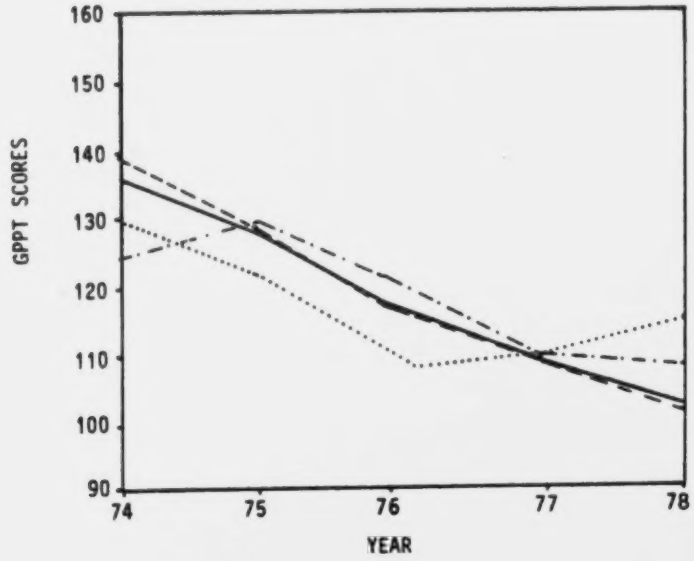

FIGURE 2 Profile of Afrikaans-speaking boys according to television viewing times during weekdays: field 6 of the GPPT (succurance)

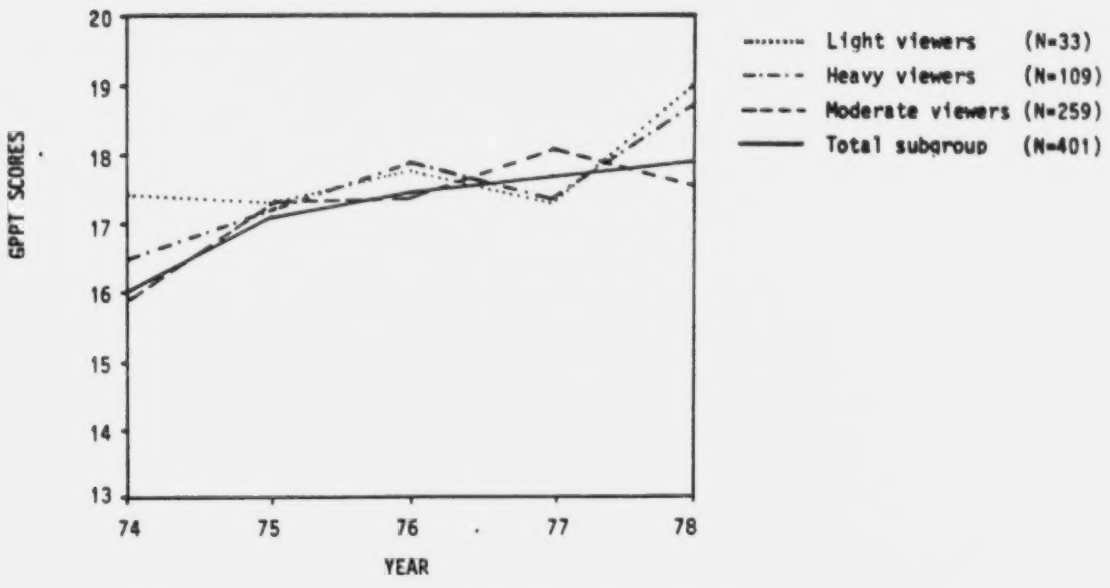

Figure 3 Profile of Afrikaans-speaking boys according to television viewing times during weekends: field 5 of the GPPT (affiliation and psychosexual needs)

engage in heterosexual relationships, seemed therefore to be gratified in the moderate television viewing group. Moderate viewing therefore seemed to have a positive effect on the development and internalization of needs relating to interpersonal situations (Murray & Kippax, 1979).

The only statistically significant result of the profile analysis of the Afrikaans-speaking girls was found in the case of television viewing during weekdays (Monday to Thursday) and Field 6 (succurance) of the GPPT. As in the case of the Afrikaans-speaking boys, the results indicated that the light and heavy viewers obtained higher scores in 1978 than the moderate viewers, meaning that the moderate viewers also tended to be more independent and mature than the other two groups (see Figure 4).

In the case of the English-speaking boys, the statistically significant relation between Field 1 of the GPPT and total viewing time was of such a nature that it cannot be explained in terms of the needs-and-gratifications approach because of reasonably large differences between the viewing-time groups, fluctuating on a non-linear basis from year to year. Similar results were obtained for the English-speaking girls and GPPT

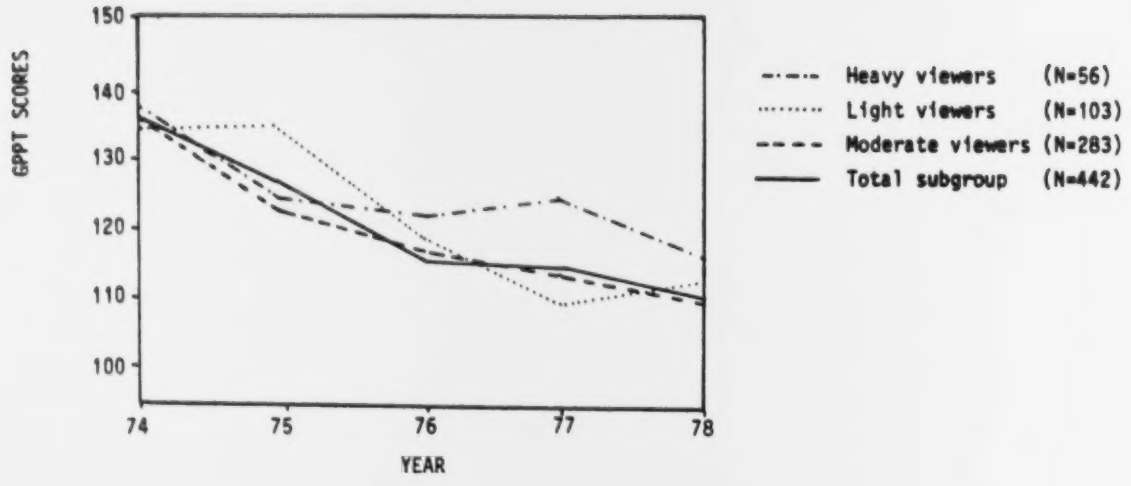

Figure 4 Profile of Afrikaans-speaking girls according to television viewing times during weekdays: field 6 of the GPPT (succurance)

(i.e. Field 2) and total television viewing time (during the week and weekends). The only interpretation of these results that could be made was that heavy viewers (21+hours television viewing a week) tended to avoid personal responsibility (see Figures 5 and 6).

In summarizing the results of the profile analyses, one could therefore state that the relation found between television viewing and the psychological needs, as measured by the GPPT, mainly concerned the Afrikaans-speaking boys and girls, and that television seemed to play a supplementary role in the need gratifications that relate to interpersonal relationships.

The Relation Between Certain Psychological Needs And Television Programme Preferences

The interaction between programme preferences and psychological needs, as measured by the Group Personality Projection Test (GPPT) in 1978, the final year of these adolescents' school careers, was also investigated. Table 3 indicates that statistically significant relations were found between the Afrikaans-speaking boys' preferences for religious programmes and Field 1 (tension), youth programmes (high school) and Fields 2 (nurturance) and 4 (neuroticism), nature programmes and Fields 5 (affiliation and psychosexual needs) and 6 (succurance). The results show that those Afrikaans-speaking boys who indicated that they regularly watched religious programmes on television projected a low proportion of negative feelings. This points to

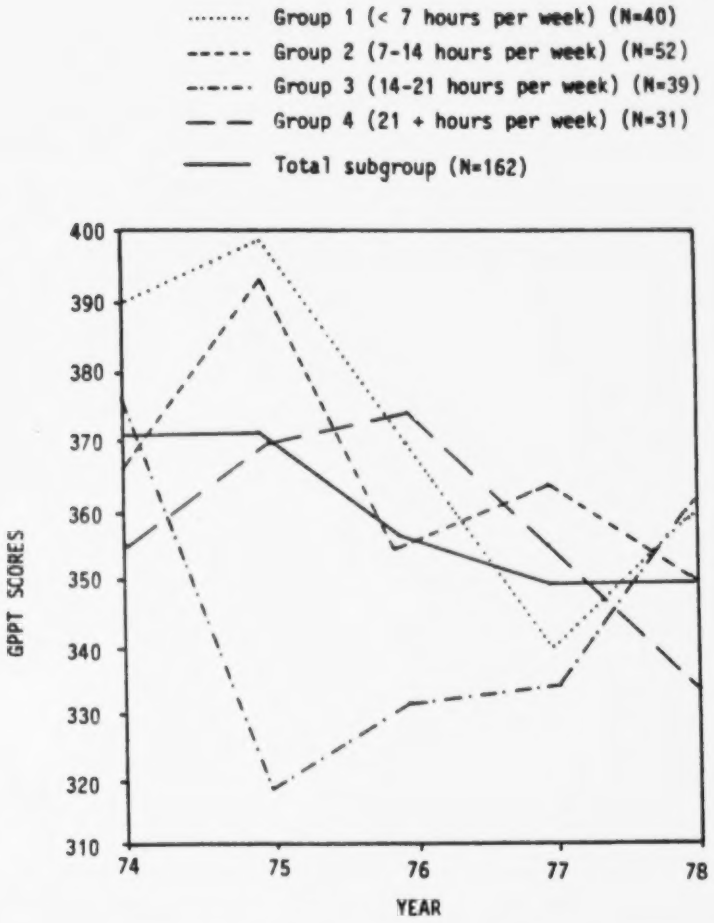

FIGURE 5 Profile of English-speaking boys according to total television viewing times during weekdays: field 1 of the GPPT (tension)

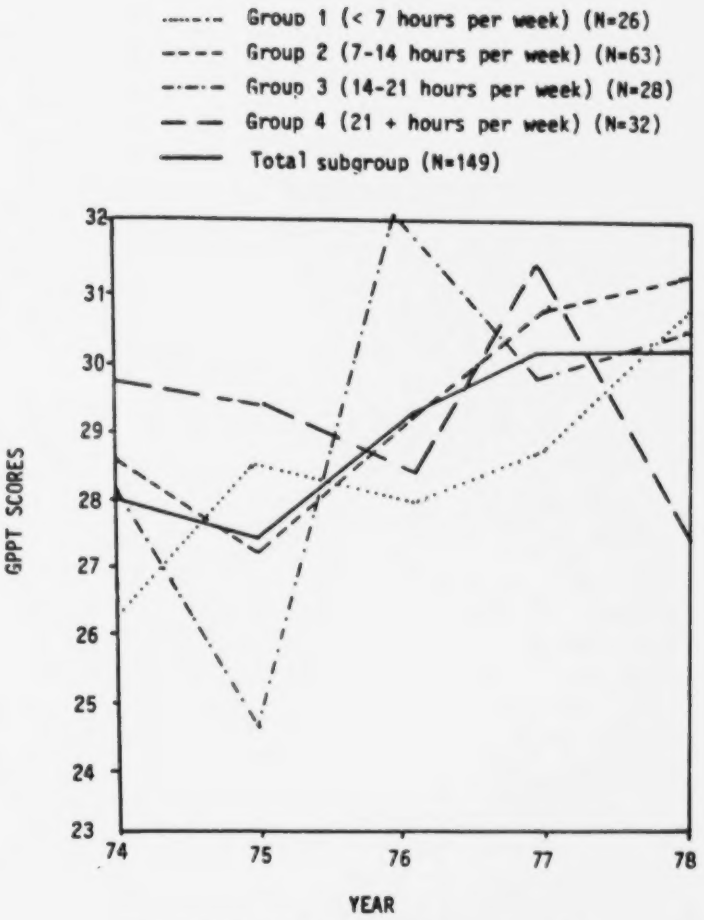

FIGURE 6 Profile of English-speaking girls according to total television viewing time per week: field 2 of the GPPT (nuturance)

TABLE 3 Summary of results: programme preferences

	Afrikaans-speaking boys							Afrikaans-speaking girls							English-speaking boys							English-speaking girls						
		ANOVA							ANOVA							ANOVA							ANOVA						
		GPFT-field							GPFT-field							GPFT-field							GPFT-field						
	MANOVA	1	2	3	4	5	6	MANOVA	1	2	3	4	5	6	MANOVA	1	2	3	4	5	6	MANOVA	1	2	3	4	5	6
1 Religious programmes	*	*																					*					
2 Music																												
3 News																						*		*				
4 Toddlers' programmes (pre-school)								*					*															
5 Children's programmes (primary school)								*					*															
6 Youth programmes (high school)	*		*		*							*										*				*		
7 Weather forecasts																												
8 Sports programmes																												
9 Stories and serials								*			*		*															
10 Light entertainment programmes								*					*															
11 Programmes featuring contests and quizzes																												
12 School broadcasts																												
13 Programme announcements	.																											
14 Advertisements																												
15 Language, cookery or other lessons																												
16 Discussion groups																												
17 Nature programmes	*					*	*																					
18 Documentary programmes	*		*			*	*																*			*		

*p < 0.05

the presence of less anxiety-producing tension, that in the case of those who stated that they never, or now and then, viewed religious programmes. Concerning youth programmes (high school) the relation found both in the case of Fields 2 and 4, suggests that the regular viewers tended to have a greater need to help others, to play the father role (Field 2), and also that they were inclined to be more firm in their decisions (Field 4) than those who never viewed, or only now and then viewed these programmes. The Afrikaans-speaking boys who showed a preference for nature programmes tended to have a greater need for group membership and belongingness, for psychosexual contacts, as well as being less independent and mature than the other groups. Regular viewers of documentary programmes tended to avoid personal responsibility (Field 2), were less mature psychosexually (Field 5) and emotionally (Field 6) than irregular or non-viewers of these programmes.

It seems, therefore, that in the case of Afrikaans-speaking boys, a relationship exists between a preference for television programmes depicting people and interpersonal situations

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(religious programmes and youth programmes, high school) and less tension, more self-confidence and the tendency to help others. On the other hand, those who preferred nature and documentary programmes, (and therefore programmes that were more objective and less interpersonal), were less mature and had a greater need for group membership than those who viewed these programmes only now and then or never.

Programme preferences also related to certain needs of Afrikaans-speaking girls. The relations found were: Field 6 (succurance) was related to toddlers' programmes (preschool), children's programmes (primary school), stories and serials and light entertainment programmes; Field 3 (withdrawal) was related to stories and serials; and Field 4 (neuroticism) was related to youth programmes (high school) although the MANOVA did not produce a significant F value in this last case. Those Afrikaans-speaking girls who stated that they regularly viewed toddlers' programmes (preschool) had a greater need to seek aid in general, and to play an infant role, than the non-viewers or irregular viewers. The same results were obtained with regard to children's programmes (primary school), and it seems that the girls who preferred toddlers' and youth programmes were less mature emotionally. Those who preferred light entertainment programmes also tended to be more dependent and less mature. In the case of youth programmes (high school) those Afrikaans-speaking girls who stated that they viewed them now and then, were less able to make timely decisions, and had a general need to remain indecisive, in contrast to those girls who stated that they regularly, or never, viewed them.

Althogh the MANOVA results of the English-speaking boys yielded no statistically significant F values, one of the ANOVA analyses did produce a statistically significant F value in the case of Field 6 (succurance) and youth programmes (high school). In this case the boys who stated that they never viewed these programmes were more dependent on others and had a greater need to seek aid than those who stated they now and then, or regularly, viewed youth programmes.

Certain personality needs of English-speaking girls were also statistically related to programme preferences. Field 2 (nurturance) related to news programmes; Field 4 (neuroticism) related to youth programmes (high school); and Field 3 (withdrawal) related to documentary programmes. In the case of the relation between Field 1 (tension) and religious programmes, the MANOVA did not yield a statistically significant F value. English-speaking girls who indicated that they regularly viewed youth programmes (high school) tended to be more certain in their personal planning than the other groups. Those who viewed documentary programmes regularly were less sensitive in social situations than those who did not view these programmes regularly. English-speaking girls who never watched religious

programmes tended to have a higher percentage of negative feelings and experienced more anxiety-producing tension than those girls who now and then, or regularly, viewed these programmes.

CONCLUSION

In response to the question on the popularity of television, which was posed in the opening paragraph of this paper, the study on the responses of 1,924 adolescents in South Africa therefore indicated that:

a) Certain relations between television viewing and the personality needs of South African adolescents do exist.

b) These relations could be connected to the uses-and-gratifications approach described by Blumler and Katz (1974) and Dimmick, McCain and Bolton (1979, as well as to the developmental theory of Faber, Brown and McLeod (1979).

c) Moderate television viewing in certain cases was found to be related to less tension, social sensitivity, gratification of affiliation and psychosexual needs, and to a growth towards independence.

d) Preferences for programmes depicting interpersonal relatonships, such as religious programmes, youth programmes (high school) and stories and serials, were related to positive interpersonal relationships and the needs of the adolescents, while preferences for programmes that had a more objective, less interpersonal content, such as nature and documentary programmes, were related to poorer interpersonal relationships.

e) The relations that were found concerned only the personality needs as measured by the GPPT. Other needs, especially for diversion and entertainment, as mentioned by Murray and Kippax (1979) and Tannenbaum (1980), were not investigated, and could very well have given some answers to the relatively small variance indicated by the data.

The South African adolescents' use of television programmes as models in the developmental process of learning and social practices and techniques, has therefore been established. This opens some very exciting research possibilities of a more experimental nature, to determine the exact nature of these learning processes. Modern systems like the Programme Evaluation Analysis Computer (Nickerson, 1981), could perhaps be used to supplement these findings.
One should always keep in mind, however, that other socializing agents, such as parents, the school and peers, are present and are used by the adolescent. These agents also interact with

each other and the adolescent. All social influence, whether emanating from a television programme, a parental proscription, or a teacher's lesson, is mediated by conditions and contingencies that derive from other sources of influence (Comstock et al., 1978: p. 286).

The television producer, the teacher and parent, therefore, form a co-operative team in the socialization and education of the adolescent.

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Dr. Dan Van Vuuren is Senior Chief Research Officer at the Human Sciences Research Council in Pretoria, South Africa.

THE INFLUENCE OF CAMERA ANGLES AND POLITICAL CONSISTENCY ON THE PERCEPTION OF A PARTY SPEAKER

Hans Mathias Kepplinger & Wolfgang Donsbach
Johannes Gutenberg-Universitat
West Germany

ABSTRACT

The aim of the experiment is to analyze the influence of camera angles and political consistency on the perception of a party speaker. By political consistency we imply the agreement between the political leanings of the audience and the party membership of the speaker. The experiment is based on the assumption that the influence of camera angles on reactions to a speaker depends on the degree of political consistency. This mutual influence of camera angles and political consistency must be considered when coverage of election campaigns is analyzed. The experiment is related to a previous content analysis of TV coverage of the West German parliamentary elections of 1976 (Kepplinger, 1980a, b). There it was established that candidates from the opposition parties were filmed significantly more often from a clear bottom or clear top view than were candidates of the government parties.

Essentially three hypotheses about the influence of camera angles on the perception of a party speaker were put forward when the results of the above content analysis were discussed:

1. Camera angles generally have no influence on the reception of a politician. The politician's personality and statements are decisive.
2. Supporters of a politician are not influenced by shots from unfavourable angles. Their political opinion 'outweighs' their perceptions.
3. Supporters of a politician are particularly influenced by shots from unfavourable angles. Because of their political opinions, they are especially sensitive.

These three hypotheses are to be examined in the following experiment.

TEST FILMS

For the test films, a speaker was filmed simultaneously by three cameras, each mounted 0.85 metres above the other. The middle camera was placed on eye level with the speaker, the other two above and below. The cameras were posted on a line running 1 metre to the side of the middle of the speaker's desk. The distance from the base-line on which the desk was standing was

2.50 metres. The camera angles were -18 (clear bottom view), 0 (eye level) and +18 (clear top view).

The test films showed a man, aged about 45, who was making a speech about the political problems of energy supply. The contents of the speech were politically neutral; i.e. the speaker did not put forward the ideas of a particular party. He was standing at a speaker's desk equipped with microphones which did not hide his face. In the background there was a blue poster with the partially legible title "Energy Forum". Each test film was introduced by a short statement by a journalist about 30 years old. He was filmed at eye level. In the first version, the journalist introduced the speaker as "the energy spokesman of the CDU/CSU parliamentary parties" (right wing version), and in the second version, he introduced him as "the energy spokesman of the SPD parliamentary party" (left-wing version). The introduction lasted about 15 seconds and the speech about 90 seconds. Both speaker and journalist were unknown to the test audience.

Measuring Instrument

The impression made by the appearance of the speaker on the subjects was measured on 20 seven-point semantic differential scales selected from a larger number of scales in numerous pretests. Positive and negative expressions were arranged in an irregular sequence on the left and on the right alternatively. The highest positive value was always coded with a seven, and the lowest with one. The subjects were requested to answer the following question:

> 'In order to acquire information on your impression of the speaker, a number of pairs of opposite terms have been compiled, with which you can assess him. If the expression on the left appears suitable, please enter a cross at the extreme left; if the expression on the right appears suitable, please enter a cross on the extreme right. In all other cases, enter a cross inbetween, depending on which of the two expressions appears to be more suitable. However, always enter the cross in the space between the columns.'

In addition to the questions concerning the test film, a number of questions associated with the behaviour of the subjects with regard to television, political interests and political opinion were posed.

Structure and realization of the experiment

The experiment was carried out in the State Police School of Rheinland-Pfalz (FRG). 122 test subjects participated in the experiment. Nearly all test subjects (118) were men, of whom

the large majority (101) were aged between 20 and 34. Political opinions were normally distributed among the test subjects. The middle value on a seven point scale was x = 3.7, with a standard deviation of 1.1. For organizational reasons a random assignment of the test subjects to the test conditions was not possible. However, because of the great homogeneity of the whole test group and the normal distribution of political opinions, the test groups were largely balanced. Significant differences could not be established. The number of test subjects within the individual groups did vary, however, between 15 and 22. Table 1 gives an overview of the structure of the experiment.

TABLE 1

Design of the experiment

		CAMERA ANGLES		
		CLEAR BOTTOM VIEW (- 18°)	EYE LEVEL (0°)	CLEAR TOP VIEW (+ 18°)
VERSION OF THE FILMS	SPD (LEFT)	N=22	N=22	N=15
	CDU/CSU (RIGHT)	N=20	N=22	N=21

Out of consideration for the test subjects no party political preferences were made known. Instead, political opinions were measured on a seven point scale, whose end points were designated 'left-wing' and 'right-wing' and whose middle point was designated 'middle'. Test subjects who marked points left of the middle were classified as 'left-wing', those who marked points right of the middle as 'right-wing' and those who marked the middle point as 'neutral/middle'. The degree of political consistency was established from the self-classification of the test subjects and their assignment to one of the film versions. Table 2 shows the definition of the degrees of consistency from the two named sources.

The definition of the various grades of consistency, based on the distribution of similar opinions in the original six test groups, led to a very even distribution of the test subjects in

TABLE 2

Definition of degrees of consistency

		VERSION OF THE FILMS		POLITICAL ATTITUDES OF THE SUBJECTS
DEGREE OF CONSISTENCY	CONSISTENCY	SPD(LEFT) CDU(RIGHT)	.....	LEFT RIGHT
	LIGHT INCONSISTENCY	SPD(LEFT) CDU(RIGHT)	.....	NEUTRAL NEUTRAL
	HEAVY INCONSISTENCY	SPD(LEFT) CDU(RIGHT)	.....	RIGHT LEFT

the nine new groups. However, six test subjects could not be categorized as they had not aired their political opinions. Table 3 shows the structure of the experiment after the ex-post-facto introduction of the second independent variable.

TABLE 3

Design of the experiment after the introduction of the variable 'political consistency'

		CAMERA ANGLE		
		CLEAR BOTTOM VIEW (-18°)	EYE LEVEL (0°)	CLEAR TOP VIEW (+18°)
DEGREES OF CONSISTENCY	CONSISTENCY	N=16	N=16	N=13
	LIGHT INCONSISTENCY	N=11	N=12	N=9
	HEAVY INCONSISTENCY	N=14	N=12	N=13

The effect of political consistency on the reception of the speaker was checked with the help of a one-way-analysis of variance. Significant differences ($p < .05$) were clear on 6 of the 20 semantic differential scales. Surprisingly, the relationship between political consistency and reception of the speakers was not linear: test subjects whose opinions were slightly inconsistent with those of the speaker judged him on the whole better than test subjects whose opinions were consistent with his opinion. As expected, test subjects whose opinions were greatly inconsistent with the speaker's judged him worst of all. Table 4 shows the middle values and the level of significance for all the scales. On the basis of the analysis, it can be said that the introduction of the variable of political consistency was only partially successful.

We suggest the following as an explanation for the curved linearity of the relationship mentioned above. The speaker's statements were consciously kept neutral in order that they could readily be accepted as representative of different political camps. It is possible, therefore, that test subjects who classified themselves as politically left-wing or right-wing missed the arguments of their political side, with the result that their judgement was less positive than expected. A final answer to this question is not possible from the available data.

RESULTS

There were no significant main effects either of camera angle or of political consistency on information transfer measured by the cloze-procedure-test. There were also no significant interaction effects. A t-test indicated only one significant difference between two groups: subjects with heavy inconsistency showed a higher information transfer when viewing the speaker from eye level in comparison to those viewing him from clear top view (Table 5) findings. Information transfer seems not to be affected by technical means of camera angle or by political consistency.

However, both the camera angle and the political consistency affected, independent of each other, the speaker's perceptions in a two-way analysis of variance, significant main effects were evident for camera angle on 11 of the 20 semantic differential scales, and for political consistency on 6 of the 20 scales. Significant interaction effects were only evident on the non-violent/violent scale. Results with a likely margin of error of not more than 5% ($p < .05$) were regarded as statistically significant. A more detailed analysis of the data provides more exact information about the influence of the camera angles and degrees of consistency on the speaker's perception. The perception by test subjects with consistent, slightly inconsistent and greatly inconsistent opinions, viewing the

TABLE 4

Impact of political consistency on the evaluation of the speaker (means)

	DEGREE OF CONSISTENCY			ONE-WAY-ANALYSIS OF VARIANCE
	CONSISTENCY	LIGHT INCONSISTENCY	HEAVY INCONSISTENCY	p <
GRACEFUL - CLUMSY	3,0	3,4	2,5	0.02
ACTIVE - PASSIVE	5,6	6,0	5,6	0.32
NON-VIOLENT - VIOLENT	4,4	4,5	4,2	0.72
INTERESTING - UNINTERESTING	4.4	4.3	3.7	0.16
RELAXED - TENSE	5,7	6,0	6,2	0.25
RESERVED - OBSTRUSIVE	3,1	3,1	2,7	0.45
EXPERT - INEXPERT	3,7	4,1	3,3	0.04
DIFFERENTIATED - UNDIFFERENTIATED	4,4	4,1	3,5	0.04
SENSITIVE - INSENSITIVE	4,0	4,3	4,5	0.52
FAMILIAR - STRANGE	3,1	3,7	3,0	0.22
MEEK - AGGRESSIVE	3,3	3,5	2,8	0.25
LIKEABLE - UNPLEASANT	3,5	3,8	2,7	0.01
FRANK - INACCESSIBLE	4,6	5,1	4,6	0.24
SUCCESSFUL - UNSUCCESSFUL	3,6	4,2	3,1	0.01
INTELLIGIBLE - UNINTELLIGIBLE	5,3	5,5	5,2	0.71
NATURAL - CRAMPED	3,3	3,3	2,9	0.54
SELF-CONFIDENT - WAVERING	4,3	4,6	4,1	0.42
DIVERSIFIED - MONOTONOUS	3,1	3,6	3,2	0.42
DISTINCT - INDISTINCT	5,1	5,3	4,4	0.05
SUBSTANTIAL - UNSUBSTANTIAL	4,1	4,5	3,7	0.14

TABLE 5

Information transfer for different degrees of political consistency and different camera angles (means)

DEGREES OF CONSISTENCY	CAMERA ANGLE: CLEAR BOTTOM VIEW (-18°)	EYE LEVEL (0°)	CLEAR TOP VIEW (+18°)
CONSISTENCY	5,1	6,7	9,1
LIGHT INCONSISTENCY	6,3	7,1	6,8
HEAVY INCONSISTENCY	7,8	9,7	5,9

RESULTS OF TWO-WAY-ANALYSIS OF VARIANCE: NO SIGNIFICANT MAIN EFFECTS.
NO SIGNIFICANT INTERACTION EFFECT.

speaker from different camera angles, was compared. Differences in the perception by those with a clear bottom view or at eye level and with a clear top view were examined with the help of the t-test. Results with a likely margin of error of no more than 5% ($p < .05$) were regarded as statistically significant. Table 6 contains the significant t-values of the pair comparisons.

The perception by the test subjects whose political views were consistent with the filmed speaker's was significantly influenced by the three camera angles on 9 scales and with seventeen pairs of angles. Two patterns emerged which we have called Type A and Type B. In Type A, the test subjects judged the speaker in a relatively positive way when he was filmed at eye level, and in a relatively negative way when he was filmed from a clear bottom or clear top view. In Type B, the reactions were quite the opposite. Six scales with 11 significant pairs of angles belong to Type A, and three scales with 6 significant pairs of angles to Type B. Thus Type A was represented much more often than Type B. In concrete terms, this means that test subjects who saw the shots at eye level, tended to judge the speaker as more intelligible, non-violent, unobtrusive, likeable, relaxed and peaceful as well as unemotional, tense and passive. In contrast, test subjects who saw the shots with a clear top or clear bottom view, tended to find the speaker more unintelligible, violent, obtrusive, unlikeable, tense (only with a clear top view), and aggressive as well as active, emotional and relaxed. Compared with shots at eye level, shots with a clear bottom or clear top view created a predominantly negative impression. The negative impression was more marked in the case of clear top view shots than in the case of clear bottom view

TABLE 6

Comparison of the impact of camera angles on the perception of a speaker by different groups of political consistency (t-test)

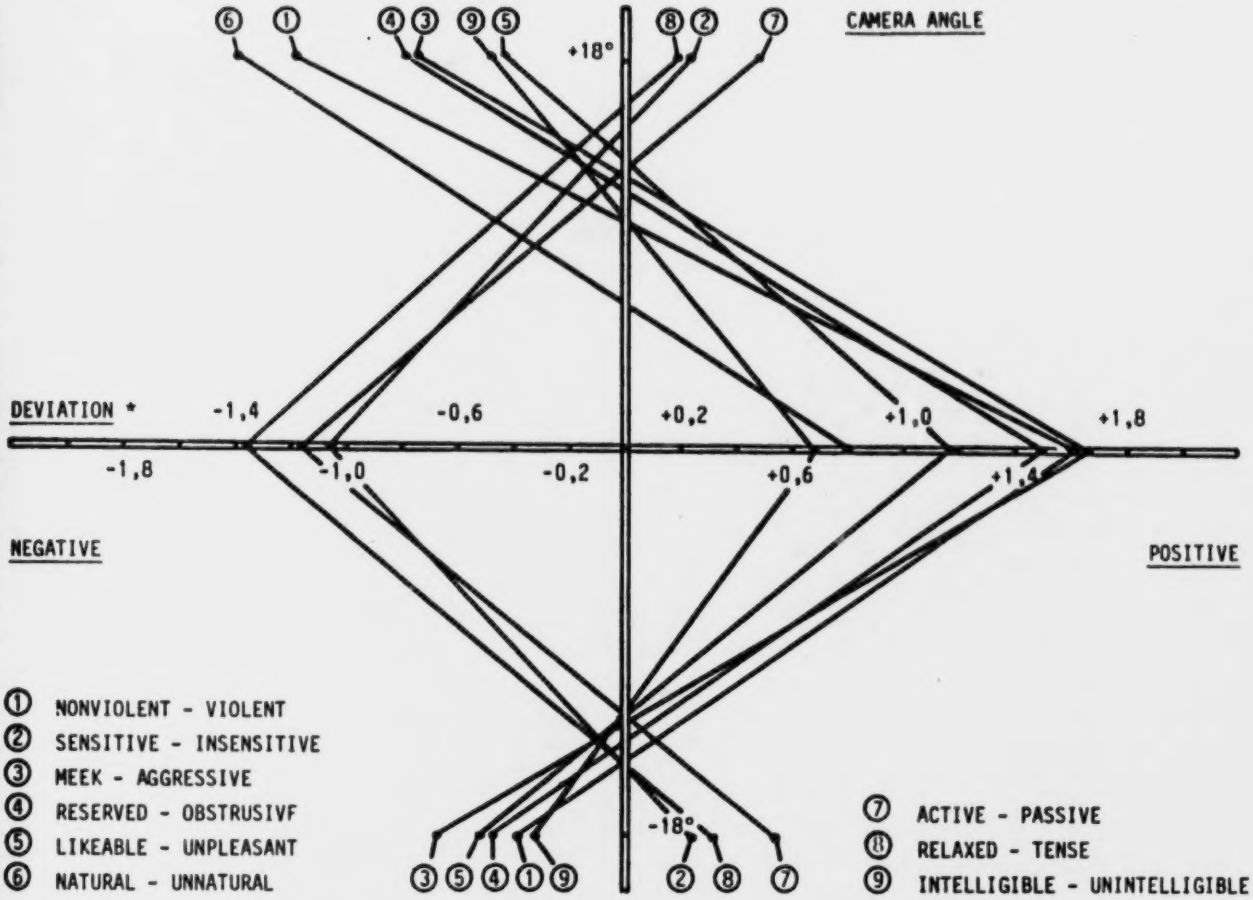
	Significances after t-test					
	CONSISTENCY Pairs:		LIGHT INCONSISTENCY Pairs:		HEAVY INCONSISTENCY Pairs:	
	$-18^0/0^0$	$0^0/+18^0$	$-18^0/0^0$	$0^0/+18^0$	$-18^0/0^0$	$0^0/+18^0$
GRACEFUL - CLUMSY				0,06		
ACTIVE - PASSIVE	0,00	0,01	0,04	0,09	0,00	0,00
NON-VIOLENT - VIOLENT	0,00	0,00	0,04	0,00		
INTERESTING - UNINTERESTING						
RELAXED - TENSE	0,01	0,03	0,02	0,00	0,01	0,01
RESERVED - OBSTRUSIVE	0,00	0,00		0,01		
EXPERT - INEXPERT						0,03
DIFFERENTIATED - UNDIFFERENTIATED						
SENSITIVE - INSENSITIVE	0,04	0,05				
FAMILIAR - STRANGE						
MEEK - AGGRESSIVE 0,00	0,00	0,00	0,00	0,00	0,06	
LIKEABLE - UNPLEASANT	0,00	0,00				0,02
FRANK - INACCESSIBLE					0,02	
SUCCESSFUL - UNSUCCESSFUL						
INTELLIGIBLE - UNINTELLIGIBLE	0,04	0,04				0,03
NATURAL - CRAMPED		0,00		0,00		
SELF-CONFIDENT - WAVERING						
DIVERSIFIED - MONOTONOUS						
DISTINCT - INDISTINCT	0,07					
SUBSTANTIAL - UNSUBSTANTIAL		0,07				0,02

shots. Figure 1 shows the reactions of test subjects whose political views were consistent with the speaker's. For this chart the average middle values of all nine test groups were calculated for each scale, and the middle values of the nine test groups on the corresponding scales were subtracted.

Test subjects whose political views were slightly inconsistent with the speaker's reacted similar to those with political consistency, but they were on 6 scales and with pairs of angles with significant differences. In concrete terms, this means that test subjects who viewed the shots at eye level tended to judge the speaker as meek, non-violent, reserved, natural and as passive (in comparison to clear bottom view only) and tense. Test subjects who saw the shots from the clear bottom view tended to find him as active, relaxed, violent and aggressive. Test subjects who saw the shots from a clear top view tended to perceive him as aggressive, violent, obstrusive, cramped and relaxed. Compared with eye level shots, positive and negative effects of shots from a clear bottom view were balanced, while shots from a clear top view had a negative impact on most of the dimensions measured. Figure 2 shows the reactions of test subjects whose political views were slightly inconsistent with the speaker's.

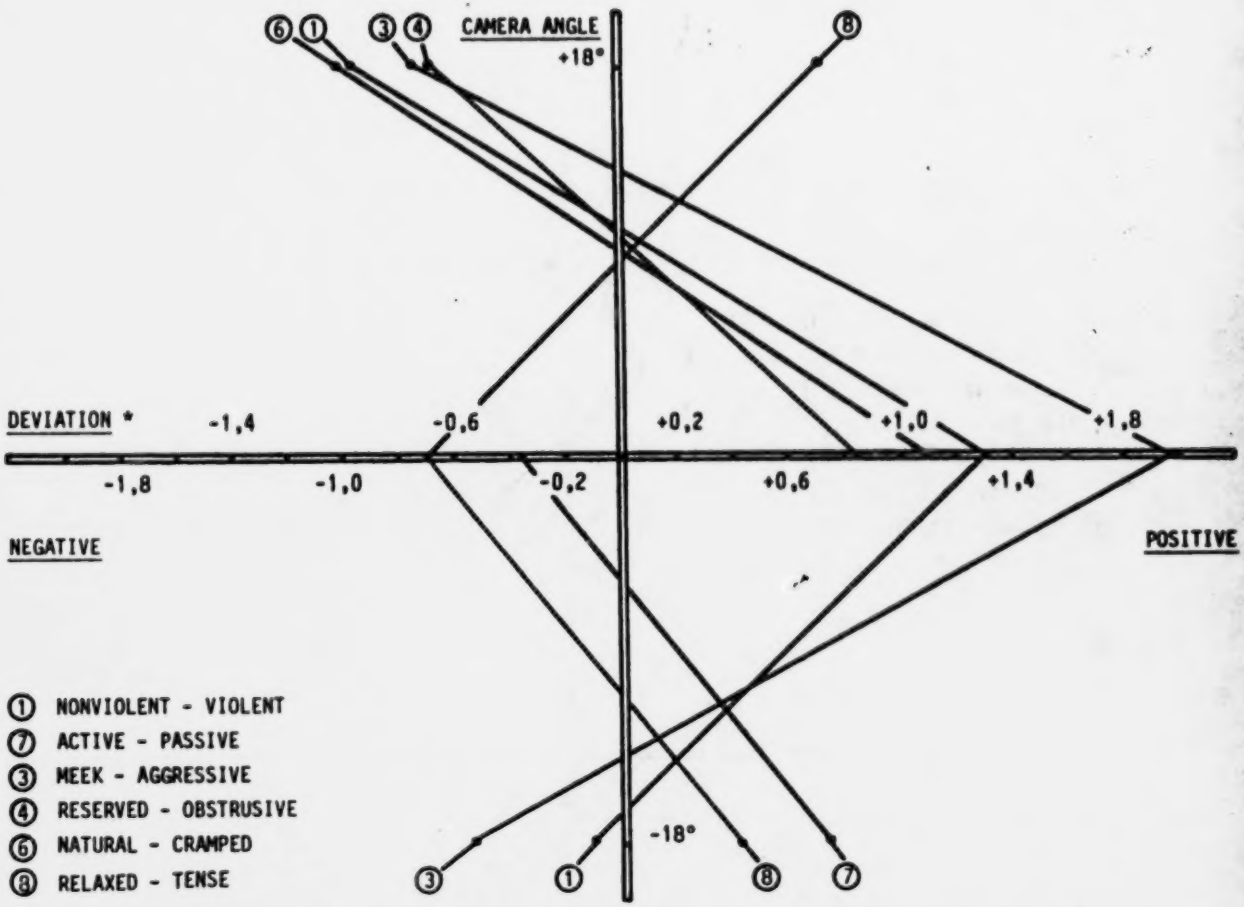
Even the test subjects whose political views were greatly inconsistent with the speaker's were influenced less by the camera angles than those test subjects whose views were consistent. In the case of the former, significant differences occurred on 7 scales and with nine pairs of angles. Type A and Type B were about equally represented. In concrete terms, this means that test subjects who viewed the shots at eye level tended to judge the speaker as substantial, intelligible, expert and likeable as well as tense, inaccessible and passive. Test subjects who saw the shots from a clear bottom view tended to find him relaxed, frank and active. Test subjects who saw the shots from a clear top view tended to perceive him as unsubstantial, unintelligible, inexpert and unpleasant as well as active and relaxed. The values are generally lower than those of the test subjects whose views were slightly inconsistent or consistent with the speaker's. Compared with eye level shots, shots with a clear bottom view tended to have a more positive effect, while shots with a clear top view tended to have a more negative effect. Figure 3 shows the reception by test subjects whose political views were greatly inconsistent with the speaker's.

Compared with eye level shots, clear top view shots had a significant influence twice as often as clear bottom view shots, on the test subjects whose opinions were greatly inconsistent with the speaker's. The same facts had already become apparent in the case of test subjects whose opinions were slightly inconsistent or consistent with those of the speaker. These results confirm one conclusion from the model of camera influence in the



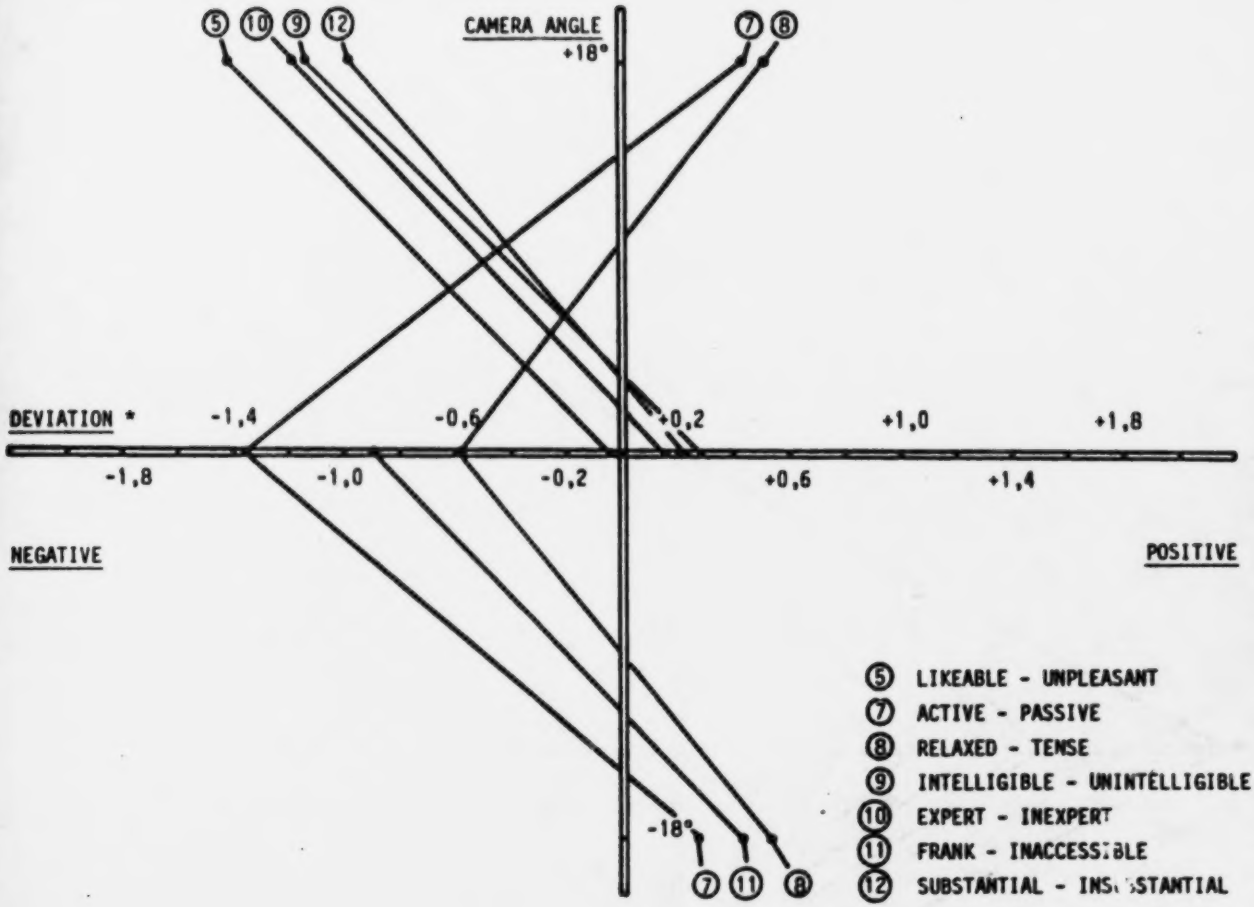
* DEVIATION OF THE MEANS OF THE 7 TESTGROUPS FROM THE MEANS OF ALL TESTGROUPS TOGETHER FOR EACH SCALE OF THE SEMANTIC DIFFERENTIAL.

FIGURE 1 Reactions of subjects with political consistency (significant angles only: $p < .05$)



* DEVIATION OF THE MEANS OF THE 7 TESTGROUPS FROM THE MEANS OF ALL TESTGROUPS TOGETHER FOR EACH SCALE OF THE SEMANTIC DIFFERENTIAL.

FIGURE 2 Reaction of subjects with light political inconsistency (significant angles only: $p < .05$)



* DEVIATION OF THE MEANS OF THE 7 TESTGROUPS FROM THE MEANS OF ALL TESTGROUPS TOGETHER FOR EACH SCALE OF THE SEMANTIC DIFFERENTIAL.

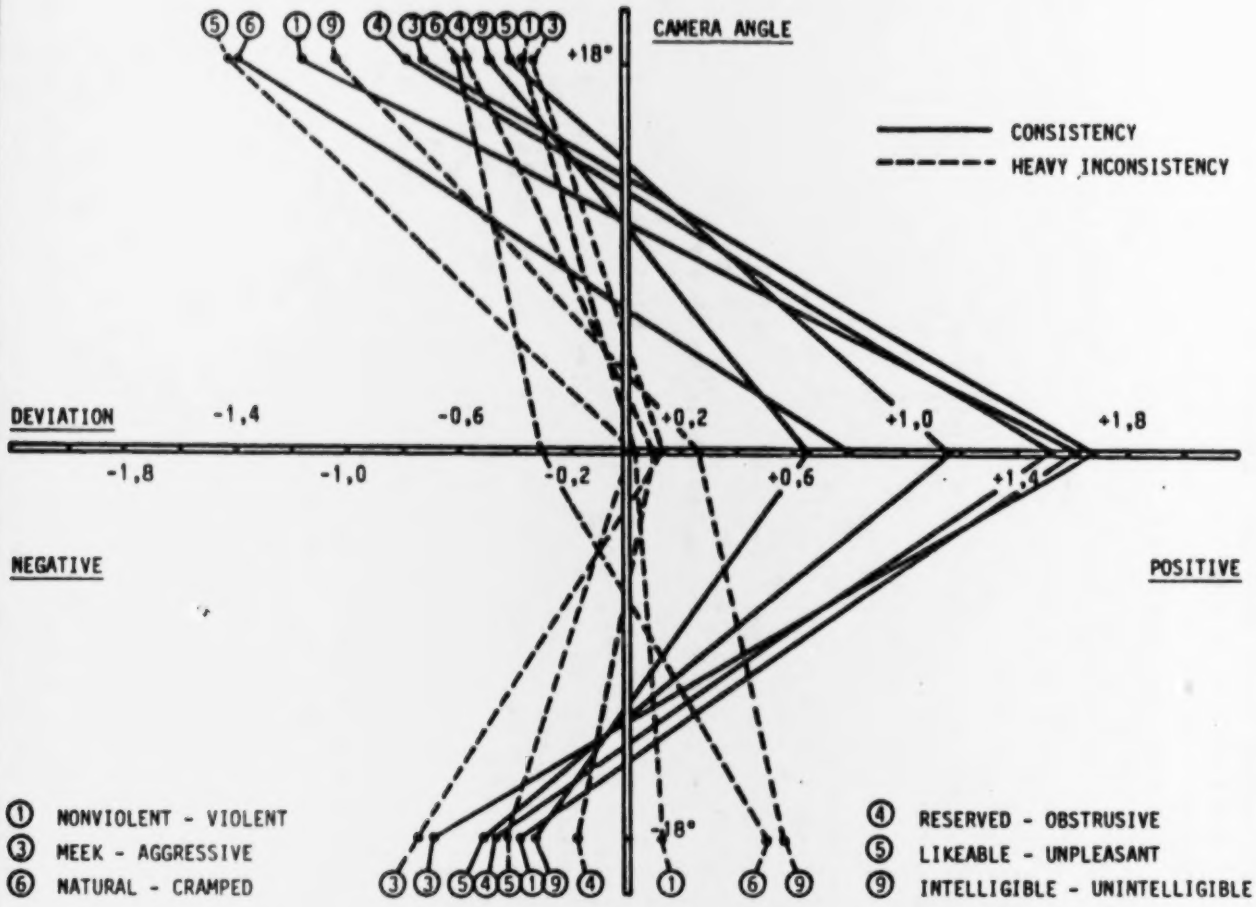
FIGURE 3 Reaction of subjects with heavy political inconsistency (significant angles only: p .05)

presentation of a neutral speaker, according to which top view shots have a greater influence on the perception of a speaker than do bottom view shots with the same amount of deviation from the horizontal. Positive and negative effects balanced each other when a neutral speaker was presented (Kepplinger & Donsbach, 1981), whereas the negative effects were clearly predominant when a party political speaker was presented.

A comparison of the test subjects whose political views are consistent with a speaker's and those whose political views are greatly inconsistent, explains how camera angles influence the reception of the speaker by his own and the opposing side. For this comparison, all pairs of angles are included which significantly influence the perception by test subjects whose political views are consistent with the speaker's. The reactions of these persons are compared with the reactions of those whose political views are greatly inconsistent with the speaker's, irrespective of whether significant differences exist between them or not. The aim of the comparison is not a detailed contrast of the individual scales, but the search for general trends. In order to keep the diagrams as clear as possible, the scales which belong to Type A and to Type B are considered separately.

Test subjects whose political views were consistent with those of the speaker's and who saw the shots at eye level, judged the speaker relatively well on the scales which belong to Type A. Their judgement was clearly more positive than the judgement of the test subjects whose political views were greatly inconsistent with those of the speaker. These facts correspond to expectation: supporters of a particular political side normally have a better opinion of one of their own politicians than of one from the opposing side. The politician from their own side not only instills them with confidence before beginning to speak, but also possesses a reception bonus in most areas. This bonus is completely eliminated, however, if the shots are taken from a clear bottom or clear top view. Test subjects whose political views were consistent with the speaker's, but who saw the shots from a clear bottom or clear top view, judged the speaker just as negatively, or sometimes even more negatively than test subjects whose political opinions were greatly inconsistent with the speaker's. In concrete terms, this means that political friends and political opponents perceived the party speaker in practically the same way. Figure 4 shows the reception by test subjects whose political views were consistent with and those whose political views were greatly inconsistent with the speaker's.

The same effect as on the Type A scales, only the other way round, is evident on the scales of Type B. Test subjects whose political views were consistent with the speaker's, and who saw the shots at eye level, judged him in a relatively negative way on these scales. Their judgement was clearly more negative than



* DEVIATION OF THE MEANS OF THE 7 TESTGROUPS FROM THE MEANS OF ALL TESTGROUPS TOGETHER FOR EACH SCALE OF THE SEMANTIC DIFFERENTIAL.

FIGURE 4 Reaction of subjects with political consistency (significant angles only: p .05) as compared with reactions of subjects in heavy political inconsistency - Type A

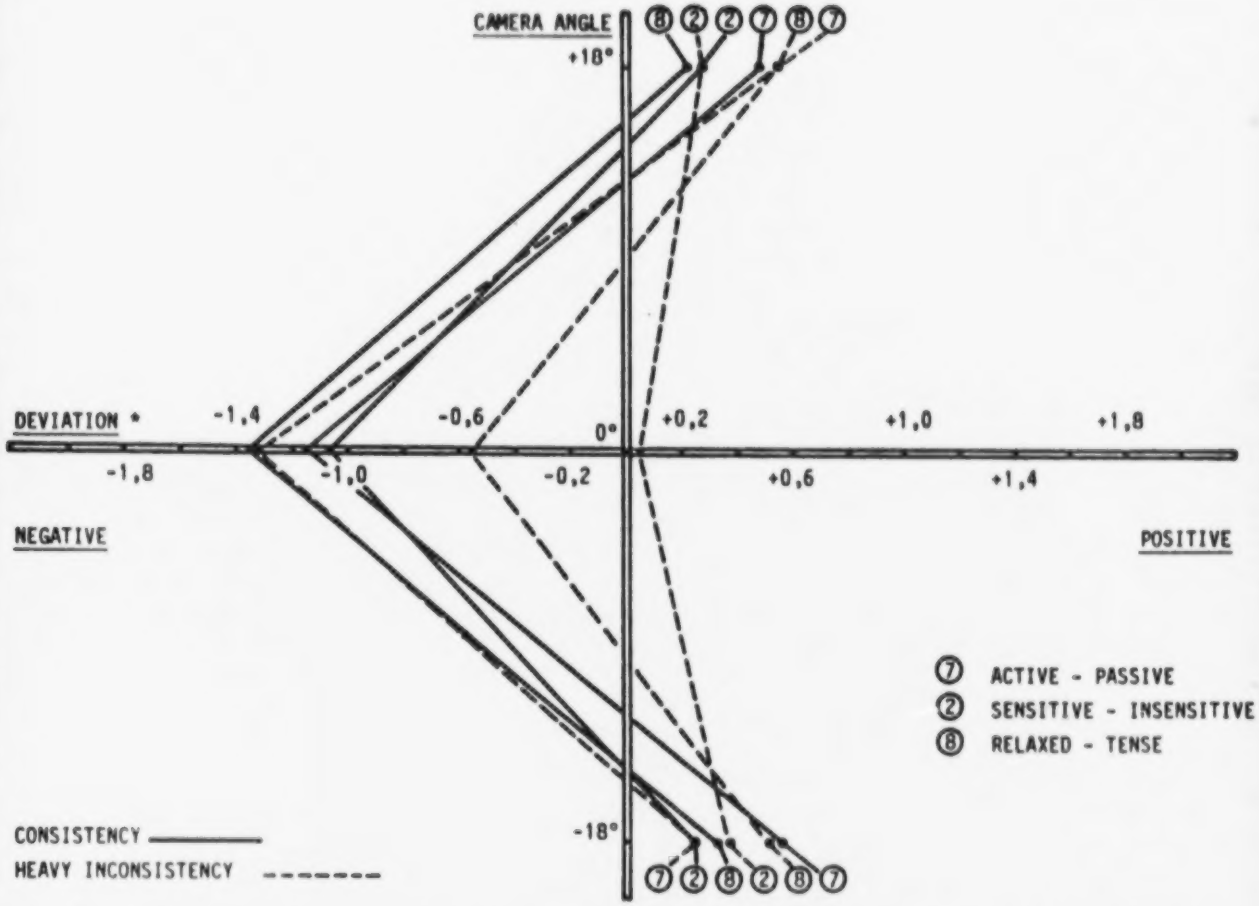
the judgement of the test subjects whose political views were greatly inconsistent with the speaker's. These facts do not correspond to expectation. It is possible that there are areas where more is expected of a politician by his own supporters than of a politician from the opposing side, with the result that when they appear in the same situation speakers from one's own side are at an immediate disadvantage. The reasons for this disadvantage cannot be explained by the available data. Even the disadvantage is completely eliminated if shots are taken from a clear bottom or clear top view. In these cases political supporters and political opponents perceived the party speaker in practically the same way. Figure 5 shows the reception by test subjects whose political views were consistent or greatly inconsistent with the speaker's.

As Figures 4 and 5 show, camera shots from a clear bottom or clear top view had a general effect on the perception of a party speaker, which was evident on practically all the scales: they levelled the reception of a speaker by political friends and political opponents. Opponents and supporters received the speaker in practically the same way despite their different political views. Although this equalizing took both positive and negative directions, negative influences were clearly more predominant: compared with negative effects on 6 scales and with eleven pairs of angles, positive effects are only evident on 3 scales and with six pairs of angles. The presentation of a party speaker from a clear bottom and a clear top view has therefore - in contrast to the presentation of a politically neutral speaker from the same camera angles (Kepplinger & Donsbach, 1981) - a clearly negative effect on the reception of the speaker.

SUMMARY

The results of the experiment can be summarized as follows:

1. The camera angles did not have a significant influence on the perception by test subjects whose political views were greatly inconsistent with the speaker's. Test subjects who saw a speaker from the opposing political side judged him very similarly from all camera angles.
2. Camera angle had a significant influence on the reception by test subjects whose political views were either slightly inconsistent or consistent with the speaker's. Test subjects who saw a speaker from their own political side judged him in quite different ways when he was seen from various angles.
3. Test subjects whose political views were slightly inconsistent or consistent with the speaker's judged him in a relatively positive way on most of the significant scales when he was filmed at eye level, and in a relatively



* DEVIATION OF THE MEANS OF THE 7 TESTGROUPS FROM THE MEANS OF ALL TESTGROUPS TOGETHER FOR EACH SCALE OF THE SEMANTIC DIFFERENTIAL.

FIGURE 5 Reactions of subjects with political consistency (significant angles only: p .05) as compared with reactions of subjects in heavy political inconsistency - Type B

negative way when he was filmed from a clear bottom or clear top view.

4. Camera shots from a clear bottom or clear top view resulted in test subjects whose political views were close to the speaker's judging him as negatively as test subjects whose political views were quite different. The speaker's perception was equalized by the camera angles, and the 'perception bonus', which a speaker from one's own political camp normally enjoys, disappeared.

The results of the experiment refute the first and second hypotheses, and confirm the third hypothesis on which the investigation was based.

CONCLUSION

Test subjects whose political views are consistent or slightly inconsistent with a speaker's can be considered potential voters of the speaker or his party, while test subjects whose political views are greatly inconsistent with those of the speaker may be seen rather as potential voters of the opposing party. The conclusion can be reached from the results presented here that camera shots from a clear bottom or clear top view influence the reception of a politician by potential voters in a mainly negative way. Whether the reception of a politician by potential voters has any influence on their later voting decision cannot be verified at this stage.

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Dr. Hans Mathias Kepplinger and Dr. Wolfgang Donsbach are Professors of Communication at the Institut fur Publizistik, Johannes Gutenberg-Universitat, Mainz, West Germany.

HEALTH EDUCATION ON TELEVISION: A PRODUCER'S VIEWPOINT

Peter Riding
British Broadcasting Corporation
London, England

ABSTRACT

This paper is intended primarily for health professionals and communication researchers, who are interested in the use of television in health education. It is the personal view of one of the producers in the BBC Continuing Education Television Department. It describes current thinking on some of the questions which might face any television producer concerned with health education. These questions concern priorities; target audience; aim of programmes; motivation of viewers; transmission time; programme length; programme format; academic research; lessons learnt from previous series; pre-testing; follow-up material; collaboration with outside organizations; evaluation of series.

The points which I believe cause broadcasters particular difficulty, are the selection of health education priorities; the balance between information, motivation and entertainment; securing good transmission times; finding out and applying the results of academic research; and collaborating with outside agencies to achieve a longer term effect.

The conclusion is that there is no one correct way of making health education programmes, but that they are more likely to have a longer term effect if planned as part of a larger, co-ordinated campaign.

INTRODUCTION

The Continuing Education Television Department of the BBC has produced a number of series in recent years, which have either directly or indirectly been concerned with health education. These have included:

- HAVING A BABY;
- THE HEALTH SHOW (Mainly keeping fit and healthy eating);
- WHAT'S YOUR POISON? (Sensible drinking);
- FEELING GREAT! (Keeping fit and healthy eating);
- TAKING THE STRAIN (Stress and relaxation);
- PLAY IT SAFE! (Child accident prevention);
- SO YOU WANT TO STOP SMOKING;
- YOUR MIND IN THEIR HANDS (Treatment of mental illness).

As the producer of the fifteen-part FEELING GREAT! series and the ten-part PLAY IT SAFE! series, and must make it clear that I do not pretend to know the secret of making successful health education television programmes. All I can do, is briefly describe my current thinking on some of the questions which might face any television producer concerned with health education. These are:

1. How are health education priorities determined?
2. Who is the target audience?
3. What is to be the aim of the programmes?
4. How motivated is the target audience?
5. How can a good transmission time be secured?
6. How long should the programmes be?
7. What does academic research tell us about making health education programmes?
8. What can we learn from previous health education programmes?
9. What choices do we have for format and style?
10. Should the programme be pre-tested?
11. What follow-up material should be offered to viewers?
12. How can we best liaise and co-operate with outside agencies?
13. How can the effect of the series be evaluated?

DETERMINATION OF PRIORITIES

What health education subjects and target audiences should be selected by broadcasters? This is a difficult question because the broadcaster is often given conflicting advice depending on who is consulted. For example, which of the following are likely to give the best advice: politicians, civil servants, health educators, hospital consultants, general practitioners, university professors, health researchers, community physicians, or the general public?

Obviously, an important consideration for broadcasters, is what the general public is interested in watching, and here audience research investigations can be helpful. Another important consideration, is the likelihood of success of any particular objective, bearing in mind how difficult it is to persuade people to change their attitudes, never mind their actual behaviour.

Target Audience

It is important to try to identify the target audience in terms of sex, age range and socio-economic status. This then determines the style of presentation and optimum transmission time and helps focus any evaluation.

Aim of Programmes
It is important to try to decide whether the primary aim of the programmes is raising awareness, motivate some action or try to change established patterns of behaviour. Writing down the aims is probably the first major step in the production process.

Motivation of Target Audience
This is the crucial factor which determines both the most suitable transmission time for the programmes and also their style and length. A very motivated audience will seek out health education programmes, even if they are transmitted at an off-peak time. However, the large majority of target audiences are not likely to be sufficiently motivated to change their normal viewing habits. For them, good transmission times on a popular channel are an essential requirement.

Transmission Time
It is no good making the best television programmes in the world, if the target audience does not see them. In the BBC, transmission times are decided by the Controller of BBC-1 or BBC-2 and he or she needs to be persuaded to give the proposed series a good transmission time. In practice, this usually means making a pilot programme for the Controller to view. In recent years the Controller of BBC-1 has offered us a number of 10 minute spots at around 6.30 p.m. on Sundays. The average audience for recent programmes in this slot has been 8 million.

Length of Programme
Our adult educational television programmes are 25 minutes long, but we have discovered, by chance, that the 10 minute length offered by the Controller of BBC-1 is just right, where the audience is not very motivated.

Results of Academic Research
I have found it difficult to discover the results of academic research into the use of television programmes for health education. However, my impression is that research tells us that:

1. 80% of the information people receive, is filtered out and not absorbed. This means that there needs to be considerable repetition and that a number of programmes should be devoted to any one subject.

2. Information by itself does not necessarily motivate and it is the image or impression left behind in the mind which is more important.

3. The individual audience member is not a 'blank page' on which the media can write their prescriptions for belief or behaviour. The viewer will tend to pay attention to people and information that confirm or

justify existing opinions.

4. The mass media exert influence primarily through their effect on 'public opinion', rather than on individual opinions or attitudes.

5. It is likely that influences are gradual, over the long term, and not chiefly short-run effects.

6. The 'fear' approach appears to be most successful when the viewer is in a receptive frame of mind and is also in a position to act without having to change established patterns of behaviour.

Previous Programmes

The main points we have learnt from previous programmes are:

1. The presenter or presenters must have good credibility.

2. A magazine-type series is likely to be less effective than a single theme series.

3. Unless the viewers are extremely motivated, the programme must inherit a good audience from the previous programme.

4. If possible, a pilot programme should be made and pre-tested with the target audience.

5. Programmes should feature members of the target audience for viewers to identify with.

6. If possible, free follow-up information should be available to viewers.

7. There should be close collaboration with outside organizations who will 'campaign' at a local level, both when the programmes are being transmitted and after they have ended.

Programme Style and Format

This, of course, is the main task of the television producer. The sort of decisions which might have to be made are:

1. Magazine Format vs. Single Theme Format.

2. Information vs. Entertainment.

3. Lecture vs. Discussion vs. Quiz vs. Documentary vs. Cartoon vs. Humour.

4. Well-known Personality vs. Expert (e.g. doctor) as the

presenter.

5. All Studio vs. All Film vs. Mixture of Studio and Film.

Obviously all decisions have time and cost implications and in the end the tone of the programmes may prove to be the crucial factor.

Pre-testing
It is clearly always desirable to pre-test a pilot programme with the target audience. We find that it is better if this is organized and conducted by someone who is not too closely associated with the porduction of the programmes.

Follow-up Material
In the area of general health education, we believe that it is important to be able to offer viewers follow-up information, preferably in the form of a free booklet. In practice, a number of such booklets have been printed and distributed by the Health Education Council and the Scottish Health Education Group. A common medical consultant has usually been contracted to adivse on both the porgrammes and the accompanying booklet.

Outside Agencies
It is important that broadcasters actively collaborate with those outside agencies which can mobilise local public interest created by the programmes and develop it into long term changes in attitudes and behaviour within the community. This can mean giving up to a year's notice of the proposed series and then following this up by local previews of the programmes once they are made.

Evaluation
While it is usually fairly easy to measure the immediate impact of programmes on viewers, it is much harder to measure their effect on individuals over a long period and to separate out all the other factors which could influence them. Having said that, it is nevertheless important to try to isolate those factors which appear to be more successful than others. Currently, we are conducting two major evaluation projects, each one lasting a year.

CONCLUSION

There clearly can be no one correct way of making health education television programmes, and the style, length and transmission time will depend both on the subject matter being dealth with, and on the motivation of the viewer. However, if the programmes are planned as part of a larger, co-ordinated campaign, then they are much more likely to have a longer term effect.

Peter Riding is an executive producer in the Continuing Education Television Department of the BBC in London, England.

TACIT AND EXPLICIT PROGRAM DESIGN - A PRACTITIONER'S VIEWPOINT

Susan Skerry with Paul Morris
The University of Calgary
Alberta

ABSTRACT

This paper discusses two different approaches used by a University media unit for the production of two recent public health education programs. The description of both approaches is based on the concepts used by Hutton (1980). CHILD AND SEXUAL ABUSE: THE UNTOLD SECRET and relied on the tacit process, using the production team's experience and intuition and minimal audience research. In contrast, TOMMY AND THE NEW BABY depended heavily on the explicit process. Existing academic research into television audience preferences helped determine the format and style of the program. The use of academic research by practitioners in small educational production departments is bound to be experimental. Unless the research is accessible and understandable, the practitioner cannot test its applicability and will continue to follow the traditional intuitive approach to educational television. By the same token, unless and until program developers and producers use formative research, they will be unable to contribute to the research data base, or suggest fruitful avenues for new research.

The purpose of this paper is to illustrate how two educational television programs, one of which was based on formative research, were produced by a Canadian University media department. In so doing, the authors wish to put the case for closer links between educational media researchers and producers and to suggest areas of mutual interest and relevance.

INTRODUCTION

The University of Calgary Department of Communications Media (COM/MEDIA) has recently produced two public health education programs that were approached very differently. CHILD SEXUAL ABUSES: THE UNTOLD SECRET involved minimal audience research and drew on the production team's intuition, experience and knowledge of television for its format and style. In other words, the production process was a 'tacit' one (Hutton, 1980). TOMMY AND THE NEW BABY was the result of a more 'explicit' process (Hutton, 1980) in which academic research into television audience preferences helped determine the format and style of the program.

Production Procedures in COM/MEDIA

To better understand the circumstances under which the two programs were produced, it is necessary to give the reader some background on standard production procedures at the University of Calgary (Appendix 1). All major production is carried out by staff of COM/MEDIA in cooperation with a project proposer/ content specialist. The content specialist is the instructional designer and curriculum specialist while the COM/MEDIA producer is the facilitator of the mediation process. The distinction between these two is carefully preserved. Any project proposal is scrutinized to see if the proposer has clearly identified.

- the need for the proposed program, (i.e. is it available elsewhere?);
- the objectives of the program,
- the target audience(s), primary and secondary;
- a brief content outline;
- the method of delivery;

From these, if approved, the assigned producer can usually recommend to the proposer and funding sources a development budget, timeline and the production medium.

From this point, the production process follows the basic procedure from point 5 of Appendix 1. The two programs to be discussed were produced by Susan Skerry. Her responsibilities included research, scripting, production and direction. Paul Morris was responsible for overall coordination of the projects.

CASE STUDY NO. 1

A 30-minute colour videotape about incest was produced entitled CHILD SEXUAL ABUSE. THE UNTOLD SECRET. In the program, five adolescent girls describe the experience of being sexually abused by a father. Their anxiety, guilt and fear, their relief at 'disclosure', and their struggle to rebuild their self-esteem, make a moving document of child sexual abuse in the family. The program was designed for child welfare workers, counsellors, police, teachers, doctors, nurses, and volunteers involved with children and families, but it is also excellent for general audiences.

Carolyn Anderson and Peggy Mayes, two graduate students in the Faculty of Social Welfare at the University of Calgary, initiated the program in March, 1981 as a Masters of Social Work project. At the time, they were the only professionals in Canada specializing in the counselling of victims of intra-familial sexual abuse. Because incest was an awkward, largely ignored problem among professionals working with children, Anderson and Mayes wanted to provide both a forum for the abused children and a training tool that would tell professionals about

the dilemma of these children and how important 'disclosure' and counselling is to their emotional health. The program's main strength would lie in the willingness of Anderson's and Mayes' teenage clients to speak about their experiences.

There were several constraints on the program; the budget amounted to $7500, the program had to be completed in three and half months and the identity of the children could not be revealed.

The two content specialists made strong contributions, not only to the information the program contained, but also to its style of presentation. They knew exactly what they wanted to convey to their audience and had some good ideas about format. In the traditional way, the producer relied on intuition and experience in making production decisions, many of which were reached after lengthy discussion with the content specialists.

Much of what the producer contributed to the program was based on her own reactions to its proposed content. The whole area of sexual abuse in the family provokes strong feelings of horror and repulsion about the crime, mixed with sympathy for the victims. Initially, the content specialists had wanted to produce a 60-minute program. The producer suggested aiming for 30 minutes, simply because she felt that the audience would have difficulty coping with an hour of such emotion-laden material. As well, a 30-minute program would permit a panel discussion to be included in any future broadcast of the program. This was agreed upon.

The producer concurred unreservedly with the content specialists that the children would be the most effective conveyors of the content. Interviews were essential; how to do them was the question. One possibility was to shoot over the children's shoulders with the camera focussed on the interviewer. This could be combined with anonymous footage of children in school yards, walking down the street and so on. The other alternative was to interview the children in silhouette. To get an idea of how the latter style looked, the producer viewed a film made by the National Film Board called WHY MEN RAPE. As a result, the choice was made to use silhouette lighting. The producer felt that the children ought to be the focus of the program and that the format should be kept as simple as possible. The content specialists, who would be interviewing the girls, would be positioned off-camera, and the backgrounds could be changed to help the audience identify each girl. The content specialists proposed using the backgrounds to convey the milieux where sexual abuse is committed and discovered. Thus an obviously middle-class kitchen would infer that incest crosses all socio-economic boundaries. A classroom backgrund would especially remind teachers that their students may be victims of intrafamilial sex abuse. A real advantage of shooting the

interviews in silhouette, was that editing could be done very tightly and selectively because lIp synchronization would not be necessary. Using WHY MEN RAPE as a model, the producer chose to link the interviews with an on-camera narrator. Since the budget did not allow for a professional narrator, Anderson and Mayes were enlisted. Although neither had done on-camera work, the producer felt that the use of a teleprompter and some coaching would help them be convincing. They would also speak with sincerity and authority. The narration backdrop was discussed by the producer and content specialists. Anderson and Mayes thought an office setting would be too cold and distant and a home setting too cosy for the topic. It was decided to use a neutral background for the narration location.

With the style established for most of the program, the opening and closing remained to be decided. WHY MEN RAPE had used a montage of music and people images for its opening. For CHILD SEXUAL ABUSE a similar approach was dicussed, using a song about sexual abuse that had been composed by a local singer. The lyrics expressed the loneliness of the sexually abused child but the song seemed too lengthy and lacked the necessary impact to prepare the audience for the emotional content to follow. Something that the content specialists had wanted to convey in the program was how a seemingly innocent domestic situation conceals the tragic circumstances of sexual abuse. The producer suggested that a short scene dramatizing the atmosphere in a sexually abusive home would be an effective opening. A one-minute scenario was written by the content specialists to be combined with a strong title graphic and electronic sound effect. Designing the title graphic was part of the tacit process of production. The supervisor of the Graphics Unit of COM/MEDIA created a title that was very simply animated to 'shatter' and contributed very strongly to the emotional impact of the program. For the program's closing credit roll, the producer proposed to use the song that had originally been composed for the opening of the program and a close-up shot of the girl used in the dramatization.

Once all the material was shot, organizing it coherently was the next task. The individual interviews had followed the same pattern, a chronological one from the abuse experience, through 'disclosure' and counselling, to the time of interview. Rather than feature one child at a time, the producer suggested that the interviews be intercut according to topic, that is according to the arrangement of the interview questions. This would be easy for the audience to follow and would add variety since each child, although experiencing much the same feelings, would express herself differently. Some visual variety would also be added because of the changing backgrounds. It should be noted that camera framing remained constant throughout each interview, partly for technical reasons, and also because the girls were most comfortable with the camera locked into position and the

production crew isolated from the interview location.

The final involvement of the producer was in scripting the narration. The content specialists tended to write in academic language, and the producer was able to help them write more simply and clearly so that the narration would be understandable to a lay audience whilst being acceptable to the professional audience.

As the producer sees it, there were four main 'tacit' decisions that she made during the production of CHILD SEXUAL ABUSE: THE UNTOLD SECRET. They were:

- using the children on camera in silhouett;
- suggesting a dramatization for an opening to the program;
- batching interview segments by content rather than speaker;
- advising on writing style.

The first two were based on her own response to the content; the other two came from experience.

Effectiveness

Immediately after production, Anderson and Mayes showed CHILD SEXUAL ABUSE: THE UNTOLD SECRET to four groups for evaluation: the children who were in the program, their mothers, a group of 14 professionals including social workers, nurses, psychologists and police, and a group of 13 Girl Guide volunteers. Fourteen written evaluations were received from the professionals and seven from the Girl Guide workers (Appendix 2). The children and their mothers were so stimulated into discussion by the program that they failed to complete evaluations.

The program had a tremendous emotional impact on the test audiences. The girls felt proud of their achievement; the mothers felt proud of the girls but were understandably upset about the agony their daughters had gone through. The lay and professional audience were shocked by the girls' stories and convinced that the program should be widely shown. The professionals, however, argued against public broadcast of the program because, as referral services for victims and their families are virtually non-existent, they feared being swamped with requests for help. This, of course, reinforced the program's message.

Almost all viewers found the dramatization to be very appropriate. It duplicated a situation in which the children and their mothers had found themselves many times. The Guiders also found it realistic. As one said, "It exploded like a bombshell in my stomach." Most of the professionals agreed that it set the scene well. Anderson and Mayes concluded that the

dramatization had created the atmosphere that was intended. Other than the one about dramatization, there were no other questions on the evaluation relating to program format. One non-professional, responding to a question on suggested changes in the program, said that she disliked the use of two narrators; the 'swapping' between the two was distracting.

The content specialists feel that the objectives of the program have been well met. They have used the program effectively at local seminars and presentations and at national conferences. Some 21 videcopies have been sold throughout Canada and the United States to date. In Calgary itself, cooperation between agencies which deal with intrafamilial sexual abuse has been greatly improved because of the enthusiastic response to the program.

One additional use of the program outside of the planned audiences has been in a counselling situation. Mayes and Anderson have found that when they show this tape to abused children coming in for counselling the first time, the children are more willing and better able to talk about their own experiences. Audience identification with the girls in the program has had a positive effect on children who have recently revealed abusive treatment.

Summary

The impact of this program lies without a doubt with the children. Their agony is clearly communicated; it forces the audience to think about the problem of sexual abuse and it encourages them to help. The dramatization immediately catches audience attention, and a logical organization, excellent content and clear narration also contribute to the program's effectiveness. There are some technical difficulties, and professional broadcasters would agree that the production quality of the narrative segments is not good. They would also say that the program is visually boring, although the producer suggests that the silhouette lighting of the children enhances the drama of their situation. She feels that what the program needs most are some visual and aural breaks in the constant flow of intense information. None of these problems seems to hamper the impact of the program, however. The program is basically 'radio with pictures' and it really did not need to be anything more.

The program has not yet been broadcast because one consent was withheld. But that is being remedied right now and we hope the program will soon reach a general audience and help some children communicate their problems to adults, who will be better able to understand and to help. A film copy is being made to respond to requests from larger audiences and from outside North America.

CASE STUDY NO. 2

The second production, TOMMY AND THE NEW BABY, is a 16-minute colour videotape to help prepare children for the arrival of a new baby in the family. The program is the result of an attempt to use existing formative television research in an explicit way. It was designed as part of the Calgary General Hospital's Sibling - Program, a short, one-time introduction for three to eight year olds to what happens when their mother goes to the hospital to have a baby. Each session begins with a facilitator asking the children where they think babies come from. After determining what the children know, the facilitator uses an educational doll to correct or add to their knowledge. The children then view TOMMY AND THE NEW BABY and are encouraged to discuss it. Next, the children go off to see the newborn nursery and watch a mother breastfeeding. Back in the classroom, they discuss the tour and learn how to diaper and hold a doll. They are also invited to talk about their feelings about the new baby. At the end of the session, they receive a colouring book of birth theme pictures. In the meantime, their parents have been in a class designed to help them handle sibling rivalry and talk about sexuality with their children. The parents also watch TOMMY AND THE NEW BABY. They take home a T-shirt meant to be presented to their child on his first visit to the hospital to see his new sibling. The Sibling Program is currently the only one of its kind in Canada and has been very successful since it began three years ago.

When COM/MEDIA first became involved in the project in January 1981, the coordinator of the Sibling Program was using a 16mm film designed for 10 to 14 year olds. She used only the portion of the film that covered conception, foetal frowth, labor and delivery. This was awkward and tedious, but the children closely watched the animated sequences on misconceptions about birth and were very attentive to the birth itself. The content specialist wanted to duplicate this information but in a format better suited to the age group three to five, to which 80% of the children attending the Sibling Program belonged. TOMMY AND THE NEW BABY was thus initially meant to be a program on sex education for preschoolers. The other constraint on the program was a budget of $8500. It was to be shot on videotape.

Because the producer had never developed and produced a program on this topic for this age group before, she needed to research three areas: sex education, sibling rivalry, and television preferences. As a result of the research, the Sibling Program itself was reorganized, the actual program content and its scope were determined, and a format for the program evolved.

The composition of the target audience was mostly three to five year-olds with about 20% being between six and eight. A survey of the children participating in the program showed that most of

them had some basic knowledge of where babies come from. In other words, the program would not have to show them the differences between boys and girls. The children also knew that "the baby is in Mom's tummy". What more they could be told came from Anne Bernstein's book The Flight of the Stork (1978) which describes the amount and complexity of information children can absorb at various stages of their development. For example, preschoolers can comprehend the uterus as a special place in the mother for the baby to grow, but the concept of fertilization is beyond them. This book also gave the producer an idea of how to talk about sex: dialogue between adult and child is more effective than a lecture. This was put to use in the final script.

At this point, the idea of making strictly a sex education program was modified in favour of one in which sex education and sibling feelings were combined. It was decided that the sex education could be reinforced and expanded by the group facilitator using an educational doll that gave birth. The television program would.

- alleviate children's fears when Mom goes to the hospital by showing what happens there; this would require explaining the uterus, the vagina, and labor and delivery;
- show a baby being born to reinforce the children's understanding of birth;
- allow the expression of some typical anxieties that children have about a new sibling.

Because of the knowledge gained from Bernstein's book and the Sibling Program experiments in the classroom, it was also decided to split the Sibling Program into two sessions, one for three to five year-olds and one for six to eight year-olds. The videotape program would be used in the younger class and tried out in the older group to see if it was useful there too.

Research on sibling rivalry was difficult to find. A computer search of periodicals yielded very little, so most of the information came from the content specialists.

The search for research on television format appeal was more fruitful. A search of ERIC was done through the Social Science Division of the University of Calgary Library. (ERIC is the Educational Resources Information Centre operated by the National Institute of Education of the United States Office of Education.) The descriptors used for this search were combinations of 'pre-school children', 'young children', 'preschool education' 'children's television', and 'television viewing'. One hundred and fifteen abstracts of journal articles on preschool children and television were accessed. Of these, seven articles were selected, of which five, dated between 1974

and 1979, were found (see References). They all discussed formal features of television relative to either attention, prosocial behaviour or comprehension of content. One article showed how a combination of prosocial television, related play materials, and teacher involvement in a low structure classroom resulted in positive social interaction among children (Freidrich et al, 1975). This indicated that the Sibling Program itself was on the right track. Another article on preschoolers' comprehension of television narrative (Wilder, 1979) gave the producer an idea of the difficulties children in this age group have with a narrative storyline. But the most valuable article by (Alwitt, Anderson and Lorch, (1980). This article informed the producer that the most effective production elements that enhance and maintain visual attention in preschoolers are: puppets, unusual voices, women, children, women's and children's voices, auditory changes, cuts, sound effects, laughter, and applause. Men's voices, extended zooms and pans, animals, eye contact, and stills tend to depress preschool children's attention. In addition to reading the formative research articles, the producer also viewed several children's programs including SESAME STREET.

At this point, the producer began working on the script, and after three drafts came up with the basic program. "When Tommy's mom is too busy with his baby sister to play, a disgruntled Tommy goes off to visit his friend Joyce . . . and learns how babies are born. Through her special book, Joyce introduces Tommy to Trina and Brent Bessey and their Mom and Dad. Together the two friends follow Mom and Dad to the hospital to watch the birth of the Bessey's baby girl, Natasha Rae. And when Trina and Brent go to the hospital to visit their new sister, Tommy, now an interested observer, discovers that he's actually proud of being a big brother."

There are so many elements to consider when analyzing how a script is written, that it is sometimes hard to say where intuition leaves off and decisions based on explicit information begin. However, to create the script, the producer used the formative research in the following way. Because children like women and puppets and funny voices and women's voices, the puppet Tommy and his friend Joyce were conceived to carry most of the emotive content of the program. Animated sequences about birth were out of the question because of budget, and the research stated that the use of stills would depress attention, so the dialogue between Joyce and Tommy was also used to convey most of the facts about birth. Bernstein had suggested that dialogue was an effective way to instruct children about sex. This meant that Joyce had to respond directly, simply, and clearly to Tommy's questions. When discussing feelings, she had to be sympathetic and understanding like a mother would be. It was important that the two have a genuine respect and liking for each other. In this way, content research affected the format

of the program. SESAME STREET was also a model for the program's puppet sequences.

To show the birth of a baby and what happens at the hospital, the program also needed live sequences. It was felt that the best way to do this would be with a parallel story of siblings and a new baby, with which Tommy and the audience could identify. Formative research supported this approach with the information that children pay attention to children and children's voices. Children's difficulty with narrative suggested that a voice-over commentary on the live action by Joyce and Tommy would help the audience understand the story-line.

The producer's familiarity with SESAME STREET's 'bit' design also influenced the script. Short segments - the longest was three minutes - and the alternation of live and puppet sequences were meant to maintain the audience's attention. Using cuts and relatively little camera movement was also a result of formative research. There were only about six dissolves in the program.

Some of the tacit decisions about the program should also be mentioned. A 'special book' was the device used for transitions from puppet sequences to live sequences. Joyce and Tommy would look at the book for information and a dissolve with music would provide the transition to a live location such as the hospital. Besides helping the audience understand the story, the voice-over dialogue during the live sequences was a natural continuation of the puppet sequences. It provided another advantage, in that the producer was working with non-professionals in the live sequences and did not want to make big demands on them for dialogue and movement. Another tacit aspect of the program was the music composed by a musician who was able to enter into the spirit of the program with ease. The other major intuitive input was from the two puppeteers who work almost exclusively with children. They suggested changes in the dialogue between Tommy and Joyce that were based on their experience in puppet theatre. This was invaluable.

<u>Effectiveness</u>

The effectiveness of TOMMY AND THE NEW BABY remains largely to be seen. When the rough edit of the program was completed, it was informally tested on an audience of eight 3-5 year-olds and six 6-8 year-olds. Both groups of children were observed for attentiveness to the program and were asked questions about the content afterwards. The children responded favorably to Tommy and the birth of the baby and they understood most of the actual information included in the program. It was difficult to tell what their reaction was to the sibling feelings presented in the program. Their attentiveness was good except in two places. Some of the children looked away during a puppet segment in which Joyce describes labor and delivery to Tommy. After the

birth, which they found very engrossing, all of the younger group of children either looked away or talked excitedly to the facilitator about what they had seen. This interlude lasted for 15 or 20 seconds before they turned back to the television set to watch the next puppet sequence. As a result of this response, the producer extended the delivery sequence with footage of the mother, father and baby. It is hoped that this will give the children a chance to react to and recover from seeing the birth of a baby.

How much more evaluation of the program will be done is up to the content specialists. There are some questions that remain to be answered. We know that the children are attentive, but we do not know how much of the content they understand. Children seem to watch what is comprehensible to them (Alwitt et al, 1980) so we seem to have taken the right approach. Another thing we do not know is the effect of the program on the children's feeling and behaviour. Will the program help them feel less anxious about their mother going to the hospital? Will they be gentle with the baby? Will it encourage them to talk about their feelings? Will they have nightmares about seeing a birth?

The birth is a touchy subject for some adults who have seen the program. The birth was intended to help reinforce the sex education the children received with the educational doll. It was also meant to help them understand what happens at the hospital so they would feel less anxious about their mother's departure. Whether the birth actually does this we do not know. Some adults who have viewed the program see it primarily as a tool for sex education. They feel that the aspects of the program concerning anxiety about mother's absence and the sibling feelings are bound to be lost in the excitement of the baby's birth. This may be true. In this respect, it would be interesting to know whether or not the children identify with Tommy.

We suspect that the program is a little advanced for three year olds. On the other hand, we also think that children up to eight or nine would really enjoy it. It would be worth testing the accuracy of our audience age group assumptions.

SUMMARY AND CONCLUSIONS

CHILD SEXUAL ABUSE: THE UNTOLD SECRET has proven to be successful; TOMMY AND THE NEW BABY is giving a good indication of being effective. From our experience of producing these two programs we cannot say that the explicit process was more effective than the tacit approach. There is no doubt, however, that being able to find information on children's preferences for television format was invaluable to a producer who had no

experience in the area but was required to write a script for a preschool audience.

Finding the research was time consuming, but we are fortunate to be at a University with an excellent library. Our computer search cost about $50.00. But we wonder about the hundreds of smaller institutions and independent production companies in the country who do not have access to institutional libraries. Like us, they cannot afford professional instructional designers and program developers but they still make educational programs. They are a sizeable market for formative research and they are not being reached.

It is not just a matter of finding the articles in academic journals. The producer of TOMMY AND THE NEW BABY read 115 abstracts to find what she thought would be useful: she may have missed an appropriate article out of ignorance. The articles that she chose to read were sometimes discouraging because of statistical analyses that were irrelevant for her purposes. What we need are the results of formative research, clearly and plainly written and evaluated for research method and importance to the field, and they should be easily accessible to any television and film professional interested in educational media. In Canada, institutions such as Universities may have media units that will use existing formative research for specialized audiences such as children or the mentally handicapped, but adult audience preferences will not be investigated. Most professionals believe that they already know what adults like to watch.

Cooperation between researchers and producers is another possibility. Some programs that are successful when produced by the tacit approach could be tested to see why they work. Others using an explicit approach derived from existing research could be tested to see whether the applied research works, not just once but again and again. Replicability is certainly important. But, until the researchers start communicating in understandable ways to educational media producers, there will be hundreds of small production houses continuing to make programs using the tacit process. They could be missing a great educational opportunity.

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D. Paul Morris is manager of Media Development in the Department of Communications Media at the University of Calgary.

Susan Skerry is a producer with the University of Calgary's Department of Communications Media.

APPENDIX 1

PROGRAM PRODUCTION PROCEDURES

	Director/ Assoc. Director	Program Manager	Production Manager	Producer	Project Proposer/ Content Specialist	Budget Officer/ Dept. Head, Dean
1. Initial Discussion		X*			X	
2. Preliminary Development		X*	X**		X	
3. Preliminary Cost Estimate	X	X*	X			
4. Fund Authorization	X	X*			X	X
5. Assignment of Human Resources		X*	X**	X		
6. Pre-production		X		X*	X	
7. Project Review	X	X*		X	X	X
8. Production			X	X*	X	
9. Internal Evaluation		X	X	X*		
10. Post-Production			X	X*		
11. Technical Evaluation	X	X	X*	X		
12. Internal Evaluation	X	X*	X	X		
13. Revisions		X	X	X*		
14. External Evaluation	X**	X*	X	X	X	X
15. Final Revisions		X*	X			
16. Final Report		X**		X**	X	

*Responsible for calling the meeting, documenting the results, etc.

**Optional/shared.

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APPENDIX 2

SAMPLE QUESTIONNAIRE

CHILD SEXUAL ABUSE:

THE UNTOLD SECRET

Please identify your occupation:

How appropriate did you find the dramatization to be?
Please comment.

What were your overall impressions of the program?

What, if any, changes would you recommend in the program?

What suggestions would you make as far as potential audiences for the program? Who should it be shown to?

The girls are anxious to hear some reactions to the program. If you were to comment on the videotape what would you want to say to them?

General comments:

DEVELOPING COMPATIBILITY BETWEEN FUNCTIONS AND TECHNIQUES IN MEDICAL TELEVISION PRODUCTION

Richard T. Hezel

University of Houston
Texas

DEVELOPING COMPATIBILITY BETWEEN FUNCTIONS AND TECHNIQUES IN MEDICAL TELEVISION PRODUCTION

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ABSTRACT

The institutions providing televised health care instruction have approximately modeled the organizations of school television in television production style and function. The heterogeneous audiences of medical television, however, require the development of special production techniques that are capable of effective instruction for the educationally diverse groups and widely varying needs of medical center personnel. A review of selected production techniques, useful in cognitive change, is discussed, and evidence pertaining to the effects of production techniques, particularly emotional appeals, on viewers' affect and behaviour is presented. Emotion-inducing productions create greater compliance with behaviour requests than less emotional production techniques. The use of television in anxiety reduction is discussed, and recommendations are offered for the design of multi-goal programs to be viewed in conditions of distress.

INTRODUCTION

Quite recently the non-broadcast uses of television have expanded dramatically (Brush & Brush, 1977). An increasing number of institutions are using television for the transmission of information to managers, professional personnel, employees and clients for the development of knowledge, skills and attitudes that will presumably assist institutions in carrying out their general purpose (Hezel, 1981). Health institutions have not disregarded the proliferation of television use, and indeed, have capitalized on the availability of production and distribution technologies to produce programs for their own specialized needs and clientele (Van Son, 1982). It is unusual to find such institutions without at least rudimentary TV production/distribution capabilities, and it is common to discover that those facilities have very sophisticated television systems. Institutions providing health-related services include facilities with widely varying goals: patient-service hospitals oriented primarily toward the care of the ill; research hospitals directed toward developing knowledge about illnesses and their remedies; mental health clinics; medical, dental, nursing and other health career schools.

From an instructional designer's point of view, the goals of

television programs in the patient-care hospital and in the research hospitals seem most diverse, in part because of the extreme variation in the educational status of viewers. Television producers in a hospital setting are called upon to address clients' disparate goals, and to develop programs for extremely divergent audiences. For example, some typical functions of medical communication programs are:

1. training to improve knowledge, skills, and efficiency in the delivery of services by hospital employees, ranging from custodial staff to research and medical staff;

2. staff development to improve the ability of the professional staff (particularly physicians, nurses, and technologists) to recognize pathologies of physical or psychological states and to remediate those pathologies;

3. information for employees about personnel concerns such as benefits and services available to employees;

4. education for patients about post-operative or post-hospitalization behaviours necessary for recuperation.

The goals of medical television are, for the most part, cognitive goals that imply the expectation of behavioural consequences, reflecting in many dimensions the goals and outcomes of traditional instructional television programs produced for broadcast or for schools (Hezel, 1980). To the extent that the similarities of goals exist, much of the research in instructional television production techniques, whether semantic or syntactic techniques, is applicable to medical television. Strategies employed to reach those goals vary extensively, depending on the producer's perceptions of (1) the seriousness of the program topic, (2) the status of the receiving audience, and (3) the motivation of the audience to attend to the program (Hezel, 1982b). Producers of health care programs designed for broadcast usually attempt to attract as demographically broad an audience as possible, and, of course, they must contend with selective exposure processes--the ability of the audience member to tune out an uninteresting program. In order to attract and maintain reasonably high audience ratings, producers often rely on entertaining segments (Mielke & Swinehart, 1976) or production syntactic techniques such as camera and sound techniques or visual switching effects. The effects of humor, for example, as a semantic technique to improve learning have been reviewed by Zillmann and Bryant (1980) at a previous Conference. In particular, an experiment by Hezel, Bryant, Harris, and Zillmann (1982) demonstrates that, for adults, humor that is unrelated to a presenter's instructional objective is detrimental to the comprehension of information. It could be

hypothesized that unrelated humor actually creates an annoyance for individuals who are already motivated to attend to the presentation, and that (1) the annoyance interferes with cognitive functioning relative to the presentation, or (2) the annoyance causes a reduction in motivation to attend to the presentation.

Thus, contrary to Atkin's recommendation (1981) for greater entertaining values including exciting, dramatic, and humorous styles in health communication, the research evidence at the least supports the non-use of humor unless the humor is highly pertinent to the educational objective. Furthermore, little comparative research exists on the effectiveness of visually exciting or dramatic medical communications suggested by Atkin.

By comparison with broadcast audiences, the audiences for television programs within a medical setting are often captives with few, if any, program alternatives. Also, their motivations to attend may be high, because of perceived rewards (e.g., information for professional development and the consequent gratification of promotions and pay raises for medical staff, or information productive of a swift recovery for patients). The case could be made that entertainment and highly interesting visualization in television production is unnecessary because of intrinsic motivations to attend, or that such embellishments are deleterious because they interfere with the program's cognitive goals.

Affective goals, on the other hand, are addressed less frequently in health and medical television, yet they hold intriguing research potential, because of a close apparent relationship between emotional states and physical health (Minter & Kimball, 1980). Certain production techniques are used by health and medical producers to create affective change, which is conceived of as a prerequisite to behaviour change. Since many health behaviours are thought to be linked to affective states, such as attitudes and motivations (Mielke & Swinehart, 1976), producers frequently assume that the intensification of affect, whether hedonically positive or negative, promotes cognitive and behavioural change. Conversely, a body of research gives evidence that cognitive functioning affects the intensity of affective and behavioural experiences (e.g. Swinn & Deffenbacher, 1980; Bandura, 1969; Meichenbaum, 1977). There are several ways in which health and medical producers are treating affective issues, and, while theory-oriented research exists to support some endeavours, virtually no experimental research applied to television techniques has been undertaken in the area.

One issue regards the effects of emotion-inducing techniques on viewers' attitudes, behaviour, and comprehension of information contained in a presentation. Does the inclusion of emotional

scenes affect viewers' behaviour? In an experiment undertaken for the benefit of a Texas medical institution, adults between the ages of 19 and 59 were randomly assigned to view one of two pretested versions of a 12-minute videotaped program, designed to inform viewers of the need for transplant organs, especially kidneys, and to consider making a plan for the postmortem donation of kidneys. In a high-emotion version were included affect-eliciting cues such as slow music, video of kidney transplant and dialysis patients "choking up" while talking about their gratefulness and their hopefulness respectively, and close-up shots of children and infants awaiting transplant. A low-emotion version contained no music, no choking up, and children's close-ups were replaced by long shots. Critical information was maintained equally in both versions. After viewing, subjects were tested for program-specific recall and attitudes toward the program, and were asked to check a donor pledge sheet on which they could indicate their willingness, unwillingness or uncertainty to donate a kidney while alive or after death. The results showed that individuals who viewed the emotionally-charged version were more likely to express a willingness to donate their kidneys than subjects in the low emotion version. No reliable differences were observed on the recall scores, indicating that affect intensification did not interfere with cognitive ability.

Analyses of program appraisal items revealed more positive responses to the emotional version than to the nonemotional version. The high emotional version was judged to be more enjoyable, more entertaining, more interesting, more informative, more comforting, and more clear than the low emotional version (Table 1).

From a very practical and applied point of view, the inclusion of emotional-eliciting techniques in a medical video production appears to have quite beneficial effects on behavior and on perceptions of the production itself. Emotional presentations do not appear to promote learning, nor for that matter do they impede learning. The intensified affect, resulting from an emotional-laden program, does not seem to interfere with cognitive processing, and overall the use of emotion-inducing techniques is warranted in creating behavioral compliance and positive attitudes toward a production.

Another production research issue has arisen from association with medical television producers and hospital staff psychologists. The issue is also related to the establishment of affective goals as ends in themselves and as intermediaries in other, cognitive or behavioral goals. The research and production question concerns the use of television in medical settings for purposes of the reduction of arousal concomitant with fear of hospital procedures. Fear of unfamiliar or potentially painful medical procedures would appear to impede

TABLE 1

Summary of behavioral and recall measures and program ratings

Dependent Measure	Means: High Emotion Version (n=16)	Means: Low Emotion Version (n=16)	F
Behavior			
Willingness to donate kidney	2.50	1.31	16.62*
Recall	8.06	7.50	1.14
Program Ratings			
Enjoyment	6.38	2.00	20.85*
Interest	7.94	3.86	24.16*
Clarity	7.25	5.13	3.88
Informativeness	7.75	4.19	12.33*
Entertaining	5.88	0.33	16.93*
Comforting	5.50	-0.19	18.28*
Exhilarating	3.38	-1.06	12.07*
Sentimental	7.19	1.50	28.56*
Warm	7.75	1.19	45.25*
Heart-warming	7.75	0.13	52.57*

N.B. Recall means are based on number of questions answered correctly out of 10 questions. Program ratings means are based on bipolar Likert-type scales with values between -10 and +10. All F values are based on (df=1, 28) using two-way analysis of variance with version and sex as independent factors. On no measure were main effects due to sex, nor were significant interactions found. An asterisk indicates significant differences between means where $p<.05$.

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seeking appropriate health care, or at least hinder medical personnel in carrying out their curative tasks. An investigation currently in progress has been undertaken in order to assess the effectiveness of television production techniques in the reduction of anxiety as well as in desensitization to future potentially threatening situations. As an example of anxiety in a medical setting, one might imagine the distress of a parent whose child is admitted to a hospital's pediatric intensive care unit. During the time interval after a child is admitted, many parents are said to experience acute anxiety as a result of

separation from the child and loss of control while considerable preparations of the child's intubations, intravenous solutions, and physiological monitors take place. Anxiety is also exhibited in a hospital environment by children, for example, who are awaiting painful treatments for cancer, such as spinal taps and injections. Two lines of research can be brought to support the use of television to reduce nonacute pre-treatment anxiety: desensitization and cognitive intervention. Desensitization involves the presentation of fear-probing stimuli in a controlled, non-threatening environment (Bandura, Blanchard & Ritter, 1969). Ordinarily, desensitization uses a systematic method through many sessions of presenting the feared object or event, during which time anxiety is gradually reduced, but rapid desensitization may be used where anxiety is not acute (Malamed & Siegel, 1975).

Cognitive intervention as a method of reducing intense fear, on the other hand, is a treatment that utilizes thought processes to interfere with affective states. Intervention can result, for example, by restructuring thought and verbal statements so that the fear object becomes less threatening (Meichenbaum, 1977); by changing behavior such that the anxious person performs feared acitvities, then produces post-behavior cognitive consistency (Glass & Singer, 1972); or by watching certain types of television programs.

Unfortunately, the application of theory to the practice of medical television production is not a simple one. Seldom is sufficient time available to undertake systematic desensitization via television, particularly where the medical procedure is an emergency or crisis treatment. Other types of immediate desensitization can occur, however, by the provision of information about the medical procedure. Video and audio of scenes from pediatric ICU, for example, may enable parents to become less distressed at the sight of their child intubated and wired for physiological monitoring. The problem is that while desensitizing information may inhibit arousal at a later time, it may do nothing to remediate the anxiety experienced at the time of separation from the child. In fact, initial arousal that is intense may actually impede the acquisition of information from a desensitizing program (Mueller, 1976).

On the basis of theoretical and applied research, it is recommended that the medical television producer who is designing productions to meet affective needs should first separate the various program goals in order of urgency and establish a hierarchy of goals based on contingencies oriented toward reaching the desired goal. In cases of acute distress, it seems necessary first to use some form of cognitive interven tion or some other behavioral method to reduce arousal, then, after arousal has been reduced, to present desensitizing information.

These prescriptions are tentative, and their validity depends to some extent on research currently in progress. Nevertheless, other available psychological research seems to be entirely applicable to the uses of television to improve the mental health of medical center clientele.

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At the time of the 1982 Conference Dr. Richard Hezel taught Communications at the University of Houston, Texas. He is a former producer and director at public television stations in New York and Ohio. He is also a research and production consultant to various media organizations in Houston and in the USA. In 1983 he was appointed Associate Professor at the Newhouse School of Public Communications, Syracuse University, New York.

EVALUATION OF A MASS MEDIA-ENHANCED SMOKING PREVENTION AND CESSATION PROGRAM

Brian R. Flay, C. Anderson Johnson, William B. Hansen, Arthur Ulene, Linda M. Grossman, Lee Alvarez, Debra F. Sobol, Gianna Hochstein & Judith L. Sobel

University of Southern California
Los Angeles

ABSTRACT

There are many problems inherent in adapting prevention programs of proven effectiveness for media implementation. Moreover, concomitant problems exist in evaluating such programs once they have been implemented. This paper reports one project that successfully addressed many of these problems. The USC/KABC-TV Smoking Prevention/Cessation Program was a school-based, family-oriented, mass media-enhanced smoking prevention and cessation program targeted at junior high school students and their parents. The prevention curriculum was based on recently developed social psychological approaches to smoking prevention that have proven effective. The evaluation design included a thorough implementation/process evaluation component, a strong experimental quasi-experimental school-based study, a survey of adults, and a time series analysis of cigarette sales data. This evaluation design overcomes many problems in deriving sensitive estimates of program effects that are of high policy relevance and scientific validity. Preliminary short-term results from the school-based study demonstrate that the program discussed here represents a promising approach for reducing levels of smoking by both students and adults.

INTRODUCTION

Mass media, particularly television, hold great promise as a means of implementing effective prevention programs on a wide scale. There are, however, many problems inherent in programming non-media curricula for media implementation and evaluating such programs once they have been implemented. These issues are discussed in the following sections.

Problems With Programming

Effective school-based programs for smoking prevention have only recently been developed (Botvin et al, 1982; Flay et al, 1980; Hurd et al, 1980; McAlister et al, 1979). Collectively, these programs, based on social psychological theories (Evans, 1976), have effectively halved the number of junior high school students (when compared to control populations) becoming smokers up to three years after their provision in grades 6 or 7.

Despite the success of these programs, there remain many unresolved questions, especially when wide-spread implementation is considered (Flay et al, 1982; Johnson, in press). Successful programs have been confined to the classroom and implemented by specially trained teachers. Poorer results can be expected when such programs are implemented by regular classroom teachers unless special steps are taken. These include:

a) providing teachers with special training;
b) supplementing the classroom program with a coordinated media component;
c) ensuring that school-wide social norms are changed by providing the program to a complete grade cohort within a school;
d) increasing family involvement;
e) supplementing the prevention program with a cessation component for parents; and
f) implementing the program to coincide with other major anti-smoking events.

A program of evaluative research was designed to test the relative efficacy and cost-effectiveness of various combinations of these concepts.

Problems With Evaluation

The evaluation of mass media-based or mass media-enhanced health promotion and prevention programs is beset by several major problems (Flay & Best, 1982; Flay & Cook, 1982). The four most serious problems concern:

a) the diffuse nature of the target audience, where few persons can be identified as being at risk;
b) the low salience of the campaign materials to most of the target audience;
c) the length and complexity of the theoretical causal chains; and
d) the small number of aggregated units which are provided with the program and which may be assigned to experimental conditions.

The first three of these problems demand large-sample research, but the fourth one tends to preclude it--presenting us with a conundrum. Three approaches commonly used to overcome the above problems, and also the resulting conundrum, are the following (Flay & Cook, 1982):

a) The 'advertising paradigm', which focuses early in the causal chain. This approach is sensitive to small effects, although these effects are often of low policy relevance.
b) The 'impact monitoring' approach, which involves using data from archives, recording or monitoring systems.

This approach focuses on more ultimate impacts with greater policy relevance, but is relatively insensitive to small effects.

c) The'experimental paradigm', which overcomes both the low policy relevance of the advertising paradigm and the low sensitivity of the impact monitoring paradigm, but can be rather difficult and expensive to implement in the large populations inherent in the evaluation of media-based programs.

In order to meet the several objectives of this research, we implemented an 'experimental'study with a strong implementation/ process evaluation component at the school level. This was supplemented by a survey of adults, both parents of participating children and non-parents. In addition, a time-series analysis of cigarette sales in areas receiving the program versus areas not receiving the program is planned. Thus, we were able to overcome the major problems described above by including a reasonable number of schools in each condition for a mixed experimental and quasi-experimental study (Campbell & Stanley, 1966; Cook & Campbell, 1979), allowing the use of classroom (the unit to which large portions of the program are provided) as the basic unit of analysis. Thus, although schools were not assigned randomly to all conditions in the study reported here, they could be in future studies.

THE PROGRAM

Traditional smoking education programs that focus upon long-term health consequences of smoking have not proven effective at preventing smoking (Thompson, 1978). This program, which is based on current understanding, emphasizes ways of resisting the social pressures to smoke. Children and their parents are made aware of family, peer and media influences to smoke, and children are then provided with the behavioral skills required to resist those pressures. In addition, the immediate physiological and social consequences of smoking are covered. Finally, children are taught decision-making skills, during which they consider the behavioral alternatives to cigarette smoking and make a firm commitment to their decision regarding their future non-smoking behavior. The program consisted of the following components:

a) <u>TV Prevention Segments</u>. Five different 5-minute segments were aired on consecutive days on KABC (the Los Angeles ABC affiliate) during the last week of February 1982. The 1982 U.S. Surgeon General's Report on smoking and cancer was released on the day the program started. The segments were presented on the air by Dr. Art Ulene during his FEELING FINE (health news) portion of the 5:00 p.m. local news hour. Dr.

Ulene was thought to be regarded as highly credible by the viewing audience, and our program evaluation results confirmed this. The placement of the TV segments on a major station during a prime-time viewing hour during a sweeps (ratings) period helped to overcome the potential problem of low exposure--KABC consistently draws the biggest viewing audience among all L.A. stations during the 5:00 - 6:00 p.m. news hour.

b) Classroom Program. Schools were encouraged to offer the classroom program during the same week as the TV segments. The classroom program consisted of the best lessons from all previous research programs and theoretical developments cited above. The program was presented and led by health education or science teachers who emphasized the provision of social and behavioral skills. Peer leaders chosen by the students were used to facilitate numerous group activities. Teachers were provided with a curriculum guide, and all students with a workbook of materials and activities. KABC provided schools with materials at no cost.

c) Home/Family Component. Written materials were made available from KABC, without charge, to all parents or guardians of participating children and anyone else who requested them by phone or mail. All family members were encouraged to view the TV segments and work with their children on homework assignments regarding the factors influencing their children to smoke.

d) Smoking Cessation Component. During the week following the five prevention segments on TV, five additional segments on cessation were aired. Supplementary written materials were also provided which included a 'self-help quitting kit'. For those who could not significantly reduce or quit smoking on their own, information was provided on alternative approaches to quitting. The addition of a cessation component should further increase prevention by helping some parents and other influential adults and older peers to reduce or quit smoking, thereby directly reducing the overall social pressures on the child.

Promotion of the prevention program to schools was conducted by KABC several months before being implemented. Letters, brochures, and a return-addressed post card for ordering program materials were sent to all superintendents and principals of junior high schools in the viewing areas (Los Angeles, Orange, Santa Barbara, San Bernardino and Ventura counties). KABC also advertised the program during the weeks preceding the program.

EVALUATION DESIGN

The evaluation research on the program consists of an implementation evaluation, a large-scale experimental and quasi-experimental school-based study, a survey of adults, and a time series analysis of cigarette sales. The implementation evaluation consisted of: a) tabulation of the number of schools and people requesting program materials, b) observation of the procedures used by teachers to implement the classroom program and its effectiveness, c) questionnaire assessments of how well teachers and schools made use of the program materials provided them and the methods they employed, and d) questionnaire assessment of how and how well individual students, parents, and other adults made use of program materials.

The school-based study included three self-selected but comparable sets of schools:

a) program schools (P), in which all grade 7 students received the classroom program (plus TV and home components);
b) control schools (C), in which the classroom component of the program was not provided, and;
c) mixed schools (P/C), in which half the grade 7 students received the classroom program and half did not.

Program schools (P and P/C) were assigned randomly to whether or not teachers were provided with special in-service training. One third of the control schools were assigned randomly to an 'encouragement' condition, where students and families were provided with the program guide and encouraged to view the TV segments and do the home assignments. Over 6,500 students in sixty-nine schools were included in the study.

Students were pretested in January-February, 1982, and posttested in April, 1982. All subjects will also be surveyed at annual follow-ups for at least four years. Student questionnaires include assessments of smoking-related knowledge, beliefs, values, attitudes, intentions and behavior. Saliva samples were collected for thiocyanate analysis. Collection of saliva samples also improves self-reports of smoking behavior, by leading subjects to believe that untruthful answers will be detected (Evans, Hansen, & Mittlemark, 1977; Luepker et al, 1982). All data were, and will be, collected in the classroom by specially trained substitute teachers.

Samples of parents and other adults requesting program materials directly from KABC (requesters) were surveyed by phone at pretest and all posttest periods. If the program (particularly the cessation component) influenced a significant number of adults to quit or reduce smoking, cigarette sales should also have dropped in the week during and immediately following the

program. Cigarette sales figures will be analyzed using time series analysis (Cook et al, 1980; McCleary & Hay, 1980), to determine whether such changes occured. If possible, we will also obtain cigarette sales figures from stores near schools providing the program and schools not providing the program, to see if an even larger effect can be detected.

The studies discussed above encompass all three of the approaches commonly used to evaluate media-based campaigns. The survey and school-based studies provide information on exposure and attention to the program as in the 'advertising approach' to evaluation; the time-series analysis of sales data is an example of the 'impact monitoring' approach; and the school-based study provides a good example of the 'experimental paradigm'. This comprehensive evaluation design is clearly superior to relying on any one method, overcoming many of the problems of any one approach and benefiting from the advantages of them all. One disadvantage, however, is the relatively high cost involved in this approach.

RESULTS

At the time of this writing, only preliminary results are available from a sample of students in the school-based study. These results come from analysis of 4,100 students for whom we were able immediately to match pretest and posttest responses.

Implementation

Program materials were ordered by 153 schools to be provided to over 50,000 students by 600 teachers. This includes 40% of all junior high, middle or intermediate schools in Los Angeles County. An additional 30,000 adults ordered program materials directly from KABC. Program ratings averaged just over 10.5%, indicating that an average of 442,000 households or well over half a million people saw each segment. These figures also indicate that over 400,000 smokers, or 22% of all smokers in L.A. County, saw at least one of the cessation segments. This level of participation compares more than favorably with levels reported by other researchers (Best, 1980; Danaher et al, 1982; Dubren, 1977), representing a 33% increase over levels reported for a 1980 TV smoking cessation program in Los Angeles (Danaher et al, 1982).

Most students (65%) in program schools reported viewing one or more of the prevention segments, with only 8% reporting doing so in control schools (C), 17% in C(P/C) classrooms, and 12% in encouragement schools (suggesting that the encouragement condition was not implemented as requested). Almost all students (95%) in program schools reported receiving the program in school and using the booklet provided by KABC. Students reported liking the program, thinking that they would learn from

it, and believing that it would make them less likely to become cigarette smokers in the future.

Parents were successfully involved in the program, with an average of 55% of students reporting participation by their mother in viewing the segments, discussing the content with them, and doing homework exercises with them. In addition, an average of 33% of viewing students reported participation by their father, 18% by another adult in the home, 25% by a brother or sister, and over 30% by a friend. One quarter of all viewing students (or 66% of viewing students with one or more smoking parents) reported that their parents viewed one or more of the cessation segments. This is three times the rate of viewing by the population of the L.A. County smokers, suggesting that a school program with a family orientation is an effective way of obtaining increased attention to a program like this.

Students in classes with trained teachers were more likely to view the TV programming (69%) than students in classes with untrained teachers (60%). Moreover, students with trained teachers liked the program more, were more likely to think that they would learn from it, and were more likely to believe that it would help them never to become smokers (51% vs. 45%). The parents of students with trained teachers were also more likely to view the cessation programming (74% of viewing students with one or more smoking parents) than parents of students with untrained teachers (63%). These results suggest that trained teachers did a better job than untrained teachers in arousing the interest of students and parents in program activities.

Short-term Program Effects

The pretest and immediate posttest were administered only two months apart, with the posttest only one month after the program. Our previous research has indicated that such immediate posttest measures seldom reveal significant effects. Failure to find immediate effects is due in part to the fact that the success of the program is measured by a 'non-occurrence' over time (i.e., non-smoking throughout a period of high risk) rather than by any occurrence or response immediately following program implementation. With this in mind, the few effects reported below are all the more impressive and suggest this program will produce the expected effects at long-term follow-ups.

Students in both program and control conditions improved in their knowledge of the long-term health consequences of smoking, with control students improving from 20% to 50% correct answers. Program students improved from 19% to 56%. Thus the traditional health education material presented to control students improved their knowledge almost as much as our program improved the knowledge of program students. Control students did not, however, show changes in any other beliefs, attitudes, or

intentions, whereas program students did so (see Flay et al, 1982). Even more dramatically, only half as many programs as control students (7% vs. 10%) became new smokers (i.e., tried their first cigarette) between test times. Of those students who received the classroom program, students who viewed the TV program were more affected than those who did not.

Of all smoking parents who viewed any of the cessation segments, 69% were reported to have attempted to quit or reduce smoking, with 35% actually quitting successfully (as reported by their child). This means that a smoker was able to quit in 23% of all homes of viewing students that included any smokers. These rates, if corroborated by data from the adult survey, suggest that this program has been far more successful at getting parents to quit smoking than previous programs have been at getting requesters to quit (Best, 1980; Danaher et al, 1982; Dubren, 1977).

CONCLUSIONS

The preliminary results reported clearly demonstrate the value of a school-based, family-oriented, media-enhanced approach to smoking prevention programming. Moreover, these results suggest that such programming will prove to be a practical and cost-effective way of reducing levels of smoking by both students and adults. Future programming may be improved by obtaining increased levels of adult participation, particularly by parents. This might be achieved by working directly with Parent-Teacher organizations in addition to school teachers and students. The evaluation described has demonstrated how the problems of evaluating a media-enhanced prevention program may be overcome to produce data that are sensitive to small effects and are of high policy relevance and high validity. Future studies may improve on the one described here by ensuring random assignment of adequate numbers of units (e.g., schools) to experimental conditions.

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The principal author Dr. Brian Flay is Associate Professor and Principal Investigator at the Health Behavior Research Institute, University of Southern California, Los Angeles. His co-authors are Faculty colleagues and collaborators from KABC-TV, Los Angeles.

CANCER COMMUNICATIONS: PLANNING AND EVALUATION ISSUES FOR PROGRAMS IN RURAL SETTINGS

Richard A. Windsor

University of Alabama
Birmingham, Alabama

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Richard A. Windsor
University of Alabama
Birmingham, Alabama

ABSTRACT

The use of mass media in cancer communications programs in the United States has a long history. Few examples, however, exist which provide definitive evidence of the impact of mass media on specific cancer-related behaviors. This paper will present a selective review of cancer communications projects which have employed mass media as a major component. Particular attention will be given to methodological and design problems related to the evaluation of these mass media efforts. Case material from a recently completed four-year prospective, multi-channel, cancer communications program for lower socioeconomic, rural women will be presented to illustrate the problems, constraints and methodological concerns common to conducting field research.

INTRODUCTION

Cancer Communication Programs in the United States have used the mass media extensively in their public education efforts. These public information efforts combined with direct, group and individual educational efforts have been successful in increasing the public's knowledge about cancer, have improved cancer-related beliefs and have motivated a significant proportion of adults to follow recommended cancer prevention practices. Surveys in the United States in the 1970's by the National Cancer Institute, American Cancer Society, and the Department of Health, Education, and Welfare (now the Department of Health and Human Services) provided strong evidence of improved trends in smoking cessation, the use of the Pap test, and the monthly practice of breast self-examination. Each of these three represents focal areas for continuing Cancer Communications efforts (ACS, 1970;, 1972; Holleb, 1977; Warner, 1977; Guzick, 1978; James & Lieberman, 1979, 1981; Silverberg, 1980; Windsor et al., 1981b).

While the evidence confirming an increased public awareness, improved belief in curability, increased preventive health practices and improved cancer survival is encouraging, a number of specific questions and problems remain. One of the most prominent issues in the field of cancer screening and detection is finding ways of reaching women with high-risk profiles who have never been screened: frequently black, lower income, and rural female residents (Silverberg, 1980; Fruchter et al., 1980;

Kleinman and Kopstein, 1981; NIH, 1981; Windsor et al., 1981a). A concomitant concern in this area of cancer control is evaluating the cancer communications efforts used to motivate these women. The study on which this presentation is based addresses these two priority areas: 1) can media motivate rural women? and 2) how good is the evidence in support of program success?

This presentation examines a common problem that Cancer Communications projects face in evaluating their efforts to motivate behavior change: selecting and implementing an appropriate evaluation design, specifically one which allows a program to attribute an effect to its efforts. A number of important technical issues need to be addressed before a communications program can report that behavioral changes have occurred among a group of people because of their efforts. Case material from a recently completed, prospective Cancer Communications Project for rural women will be presented, to assess program effectiveness and to highlight common methodological and design issues faced in program evaluation (Windsor et al., 1980; Windsor & Cutter, 1981, 1982; Windsor et al., 1981a). Based on the results and experience derived from this and previously completed studies (Kronenfeld et al., 1980; Windsor et al., 1981a & d; Windsor et al., 1983), a proposed multi-county cancer communications study to evaluate the behavioral impact of selected media is presented. This discussion will emphasize translation and application of evaluation theory into practice.

Background

In Alabama, the cervical cancer rate is approximately 50 percent higher than the national average (Lehman et al., 1976). A number of traditional barriers to cancer screening and detection services exist, including limited availability and access of services. Where available, poor consumer acceptability and inability to pay further inhibit use. These factors prompted the Alabama Department of Health to initiate a Cancer Screening Program (CSP) in 1974 (Annual Report, 1979). The Alabama CSP currently serves 50 of the state's 67 counties. The CSP, initially with National Cancer Institute support, had served by the end of 1981, at no cost to participants, approximately 110,000 rural female residents. Ninety percent of all users were members of families below the poverty level. Fifty-seven percent of newly screened women reported either never having had a Pap smear, not having had one within the last year, or did not remember ever having had one (Cain, 1982).

In response to an on-going CSP interest in determining the effectiveness of methods to increase service utilization, particularly in counties with an excessively high proportion of rural women who had never been screened, a demonstration project was initiated. The purpose of the project was to implement and evaluate a community-based Cancer Communications Program applied

in Hale County. The objective of the program was to increase the frequency of new CSP users, 35 years or older (Windsor et al., 1981a & c).

OBJECTIVES

Objective of the Study. To determine the extent of behavioral impact of a community health education program applied one year apart in a rural county.

Behavioral Objective To increase the number of new and repeat users >35 years old of the cervical cancer screening program in Hale County during the second quarter of 1979 and 1980.

Program Setting

The Hale County Cancer Screening Program, operational since 1977, was selected as the demonstration site because of its pool of high risk females over 35 years of age, approximately 3,500, and its similarity to a number of counties in southcentral Alabama. Selected demographic characteristics of the county and state are presented in Table 1. As indicated, residents of Hale County, population about 15,500, are predominantly black, poor, and rural, with limited availability and access to primary health care services or personnel. This county is designated as medically underserved. Data in Table 1 on Marengo County, the comparison county in this study, indicated that it was in many ways similar to Hale. It was the closest match possible in the region.

TABLE 1

Selected demographic characteristics
of Hale and Marengo counties and the state of Alabama */x

Location	Est. Pop. 1977	% Black	% Rural	POP/MD	% <Poverty	% <Adequate Plumbing	SES Index
Hale County	15,500	63	79	3972	55	51	50
Marengo County	24,000	55	57	2647	46	42	54
Alabama	3,600,000	26	42	1860	25	16	100

* Health Care in the South. A Statistical Profile, Southern Regional Council, 1974

x Indicators of Social Well-Being for U.S. Counties, U.S. Dept. of Agriculture Rural Development Research Report No. 10, May 1979. US mean = 100, S.D. = 20

The Intervention

Principles and guidelines representing related literature in public health education, community organization, communication, and social psychology were used to identify the elements of the Cancer Communications Program (Kegeles et al., 1965; Rogers & Shoemaker, 1971; McGuire, 1973; Mendelson, 1973; Becker, 1974; UICC, 1974 & 1975; Kalmer, 1974; Wakefield, 1976; Cullen et al., 1976; Marshall, 1977; Hirsch et al., 1977; Green et al., 1979). The Cancer Communications Program was developed with an emphasis on low technology/low expense methods which could be widely used by health department, cooperative extension, and community hospitals. Five channels of communications were identified as principal elements of the county-wide intervention. The channels and purposes of each are presented in the following chart (Windsor et al., 1981a).

CHART

Elements, channels and purposes of the community intervention

Channel of Element	Communication	Purpose
1. Community organi-zation	Key local lay & profes-leaders	>Acceptance and support >Demonstrate and increase program credibility
2. Mass Media	Electronic & print media--radio, local newspaper, church and club newsletters, posters & bulletin boards	>Awareness and interest of program messages >Reinforcement
3. Lay Leadership	Leadership training	>Assumption of respons-ibility by locals in community/group <Misinformation >Acceptance by groups through peer participation-pressure >Standardization of messages
4. Inter-personal-Group	Group process - 1 to 2 hr session - standardized cancer education program	>Efficiency-Net working >Adaptability to personal evaluation-Responsibility >Motivation-Social support >Personalization of messages >Legitimacy of "at risk" role
5. Inter-personal-Individual	Individual word-of-mouth diffusion	>Persuasion >Diffusion - efficiency >Saliency of messages-behavior >Trial - adoption

An underlying premise applied in planning this project was that exposure to one source could not be expected to have an appreciable behavioral impact on this target group. In order for health communications to motivate Hale County residents, it was felt that messages from multiple, salient channels - particularly outreach and interpersonal sources - applied during a concentrated period, would be necessary (Flay et al., 1980). Pragmatically speaking, we wanted to maximize the probability of having an impact.

Two cancer communication programs were applied in Hale County over a three-month period, the Spring Quarters of 1979 and 1980, one year apart. The principal messages communicated by the programs throughout the two intervention periods were: 1) cervical cancer is highly curable if detected in its early stages; and 2) women over 35 who had never had a Pap smear are at high risk and should participate in this CSP.

The first community intervention was applied in the second quarter, April, May and June (1979). All five channels of communications noted in the above chart were used. Supportive community organizational efforts included the American Cancer Society affiliate, Hale County Medical Society, Health Department, and 27 churches. Local media included one newspaper, two radio stations, and area TV stations in Tuscaloosa. These groups and media generated recognition of this problem, assisted in the acceptance of the program, and reinforced program objectives. As a result of community organization efforts by the Hale County Cooperative Extension Service and Project HELP*, 39 female lay leaders (21 white and 18 black) from 30 active community groups were recruited. Lay leaders were trained by the staff of Project HELP and the author to conduct educational programs for their women's groups throughout the county.

Forty-five breast and cervical cancer education programs were conducted for 15-20 participants each. Approximately 750 women were documented as having taken part in the program's outreach education efforts. Assuming a conservative level of word-of-mouth diffusion by a participant to a friend (10-15%), an additional 100 local women were estimated to have had program messages communicated to them directly. These estimates indicate that approximately 750-800 adult females in Hale County, or 25 percent of the target audience, were directly reached by the first intervention. The second intervention, applied in the second quarter of April, May, and June of 1980,

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* Project HELP (Health Extension Learning Program) is a joint, statewide Community Health Education Service venture of the School of Public Health, University of Alabama in Birmingham, the Cooperative Extension Service, Auburn, and the Alabama Department of Public Health, Montgomery.

was locally initiated and coordinated by the Hale County Cooperative Extension Service. The second program utilized elements 2 and 5 only (Windsor et al., 1981a).

Program Impact - Hale County

The frequency of CSP use in Hale County by new and repeat users by quarter for the baseline year, 1978, and the two treatment years 1979 and 1980 is presented in Figure 1. CSP use during the non-intervention quarters was relatively stable for new users, and less stable for repeat users of this service for the five baseline quarters. An examination of the new user data for the second quarter of 1979, portrayed as 'X' in Figure 1, revealed a dramatic increase of approximately 500 percent if compared to an average of 15 per quarter in 1978, or 345 percent if compared to maximum frequency of 20 for the second quarter baseline in 1978. Eighty-nine new clients used the service during the intervention period. This far exceeded the observed pattern of use for all prior non-intervention quarters.

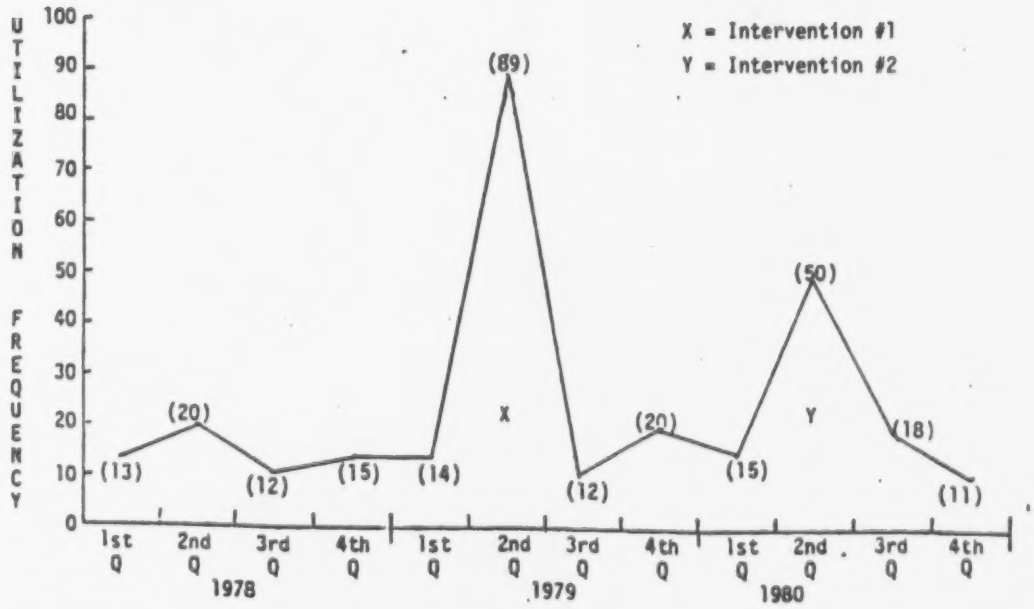

FIGURE 1 Frequency of new CSP users by quarter and year

During the intervention period, a sizeable increase by repeat users was also observed. Whether one considers the monthly average of 36 for all five baseline quarters or the average frequency of 49 for the two quarters immediately preceding the intervention quarter, the repeat user increase to 87 exceeded the observed pattern for the two immediately preceding high quarters by approximately 78 percent. While the significant increase in repeat use was a welcomed outcome, it was not

hypothesized prior to the study, and therefore it represents a serendipitous success.

The new user pattern, between the introduction of the first and second interventions, reverted to its 1978 baseline level of approximately 16 per quarter. The pattern for the five non-intervention quarters for repeat users was similarly stable, an average of 52 women per quarter.

The second intervention (Y) was introduced during the spring of 1980. As observed in Figure 2, another substantial increase in new CSP users, 213 percent or 16 to 50, was noted. An analysis of the new user increases using a linear regression model found that the observed frequencies for the intervention quarters were significantly greater ($p<.01$) than the observed frequencies for the non-intervention quarters. An examination of the repeat CSP user increases revealed another significant increase, from an average of 52 to 96. This exceeded by 85 percent the average frequency of use during the non-intervention quarters. Even considering the natural upward trend during the non-intervention quarters, the increases observed during the intervention quarter statistically exceed the prediction interval, from a linear regression analysis of repeat users by quarter ($p<.05$).

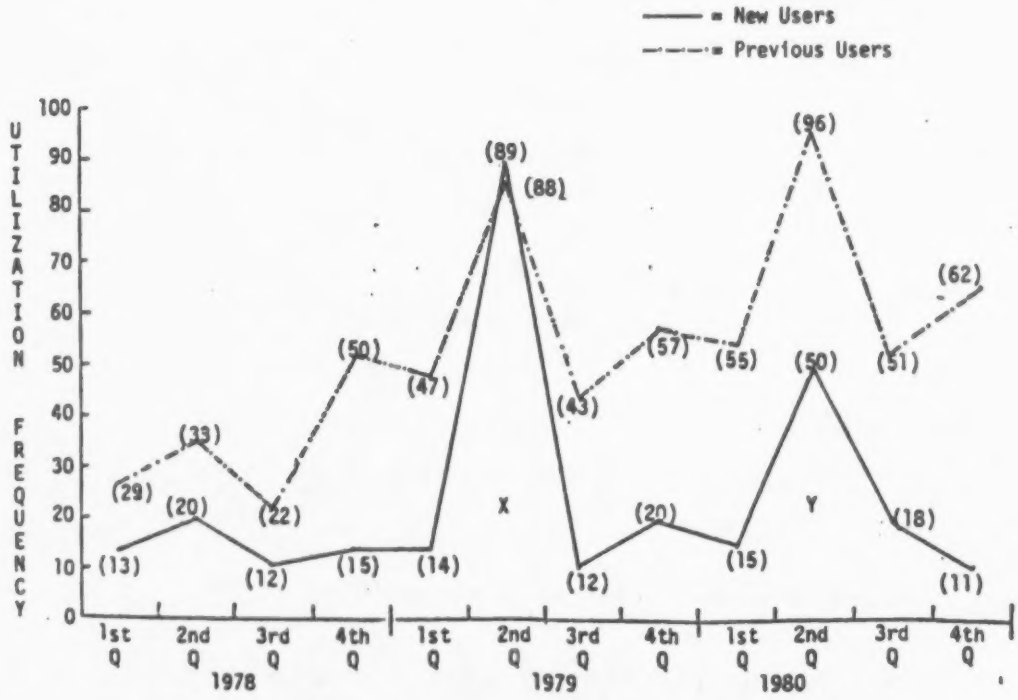

FIGURE 2 Frequency of new and repeat CSP users by quarter and year

The less dramatic impact of the second intervention was anticipated, in that only elements 2 and 5 of the community intervention were applied. In the aggregate, approximately 100 more new users were motivated to use the CSP than would have been expected if the pattern observed during the non-intervention periods had remained uninterrupted (Windsor & Cutter, 1981). The statistical analyses suggested that it was very unlikely that the discontinuity in CSP was due to chance or normal fluctuation in the pattern of CSP use.

Hale versus Marengo County

To strengthen the validity of the results, a comparison county close to Hale was selected. In comparing the observed impact among new users only in Hale County to the pattern observed over the same time period in Marengo, the magnitude of the impact was reduced somewhat, but was still statistically and programmatically significant. As reported in Figure 3, CSP use for the baseline year for Hale County (1978) was stable for the first, third, and fourth quarters, but increased slightly during the second. The baseline data for Marengo County fluctuated more than that noted in Hale. The observed increase for the second quarter in 1978 in both counties may be in part attributable to April's being Cancer Month in Alabama.

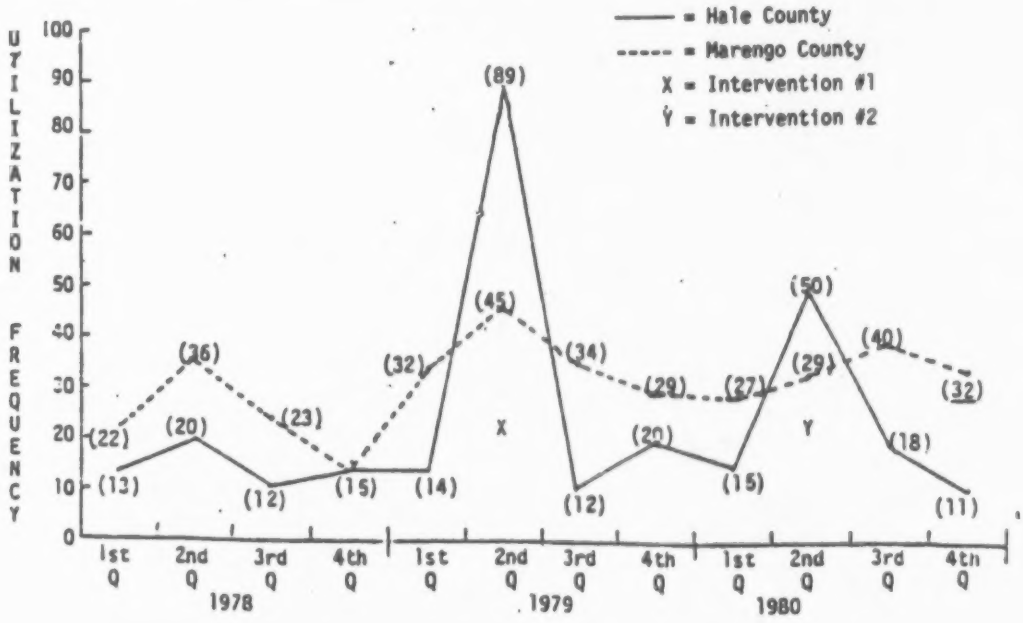

FIGURE 3 Frequency of new users for Hale and Marengo Counties by quarter and year

As observed during the first intervention quarter (X), Spring 1979, an increase in CSP use was noted for Marengo County. An increase of significantly greater magnitude, however, was

observed for Hale County. Both intervention and control counties reverted to new user frequencies approximating pre-intervention quarter, the three quarters between the intervention periods of 1979 and 1980. Data in Figure 3 suggests that the previously observed pattern of increases in frequency of new users for the second quarter in 1980 (Y) did not occur in Marengo County. Another increase, however, was observed in Hale County for the intervention period (Y) in 1980. The frequency of new users following the intervention quarter again reverted to its original level. The increase of 29 to 40 cases noted in Marengo County in the third quarter (1980) may in part be attributable to the knowledge of county residents that this was the last quarter of operation for this service. These data indicate that in Marengo County several increases occurred during the baseline and intervention periods but were of a significantly lesser magnitude than Hale County. If the comparison is made betwe:r 36 and 45, the increase was 25 percent. If the comparison is made between the five-quarter baseline average of 26 and 45, the increase was approximately 80 percent. If the baseline increase in quarterly data from Marengo is subtracted from the Hale County data, an increase of 320 percent remains.

An examination of the average number of new users per clinic for 1978, 1979, and 1980 was 5.0, 10.4, and 7.2 for Hale County, and 4.4, 6.4, and 6.0 for Marengo County, respectively. The observed patterns of change in Hale County, when compared to Marengo County, using a multiple time series design, were significantly larger. They were not, however, quite as impressive using the simple time series analysis (Windsor & Cutter, 1982).

Analysis of the data reported in Figures 1, 2, and 3 indicates that the observed increases for both intervention periods significantly exceeded 'the normal' or expected pattern for new and repeat users. It is concluded that the two Cancer Communications Programs had a significant behavioral impact on CSP use by new and repeat female clients. In order to reach this conclusion, several evaluation issues had to be addressed, issues of concern to all communication programs. The first issue was selecting a defensible design. In selecting a design, a program must exercise as much control as possible over a number of confounding factors. How control can be exercised by persons planning communication programs is discussed in the following section. The focus of the discussion in this section is on the validity of results.

EVALUATION DESIGN

Four frequently applied quasi-experimental designs were considered to evaluate this Cancer Communication Program: 1)

the one-group pretest-posttest design, 2) the non-equivalent control group design, 3) the simple time series design, and 4) the multiple time series design. The single and multiple time series designs (No. 3 and No. 4), with repeated treatments, were utilized to evaluate the program. These designs were selected because they represent the most rigorous and feasible methods of evaluating a program of this type in a field setting. In applying a time series design we had to :

1) establish the periodicity or pattern of the impact behavior being examined;
2) establish the stability of the impact measure;
3) collect impact data unobtrusively,
4) confirm multiple data points, in most cases at least one year prior to and one year following the intervention,and
5) during a specific time period apply and withdraw the communication program in an abrupt fashion (Cook & Campbell, 1976, Baker, 1978, Windsor & Cutter, 1981 and 1982).

Table 2 identifies common threats to the internal validity for the four evaluation designs. Internal validity refers to the degree to which an observed result can be attributed to a communication program. Simply, did the program produce a result or were there other equally good explanations for an observed effect? Each of these threats may compromise interpretation of program results: 1) history, 2) maturation, 3) testing, 4) instrumentation, 5) regression, 6) selection, and 7) mortality. Any of the seven may independently produce all or part of an observed change. A program needs to consider how each of these factors may have biased an observed outcome (Campbell & Stanley, 1966; Campbell, 1969, Cook & Campbell, 1976; Baker, 1978, Windsor et al., 1980; Windsor & Cutter, 1981 and 1982).

Using the case material presented, the following discussion examines the plausibility of each of the seven factors having produced the reported significant increases. In performing this plausibility analysis, program staff will derive a clearer and more defensible estimate of how successful they have been.

Plausibility of Behavioral Impact

HISTORY. While historical effects often represent a threat to internal validity of results of time series designs, the available evidence suggested little or no historical effect for this study. No unplanned local, state, or national program or event (e.g., Betty Ford's surgery) occurred during the three-year study period. All local groups which might have had an independent effect on CSP use were participants of this project. The control over such events is another benefit of prospective time series designs. Therefore, baseline data and anecdotal evidence of county-wide exposures or events that might have

TABLE 2

Threats to internal validity for four evaluation designs*

Designs	Threats to Internal Validity							
	History (1)	Maturation (2)	Testing (3)	Instrumentation (4)	Regression (5)	Selection (6)	Mortality (7)	Interaction Effects (8)
#1 One Group Pre/Post Test O X O	-	-	-	-	?	+	+	-
#2 Non-Equivalent Control Group Designs O X O O O	+	+	+	+	?	+	+	-
#3 Time Series OOO X OOO	-	+	+	?	+	+	+	+
#4 Multiple Time Series OOO X OOO OOO OOO	+	+	+	+	+	+	+	+

O = Observations Points X = Intervention Application (-) = Weakness (+) = Strength

* Windsor and Cutter, 1982

caused the impact do not support the plausibility of a unique force operating during the intervention periods.

Although the seasonal variation of CSP use produced a slight increase in the Spring quarter, 1978, the variation noted in Hale was 3.5 times less than the noted increases in 1979 (20 versus 89) and 1.5 times less (20 versus 50) in 1980. The baseline year fluctuations noted in Figures 1 and 2 may have been caused by the ACS fund - raising and screening promotion efforts in May of each year in counties throughout Alabama, or may have been a seasonal artifact. From these observations, combined with the supportive statistical analyses, the investigators concluded that history represented an implausible explanation for the observed results.

INSTRUMENTATION

Another problem that Cancer Communications Programs have to deal with is the quality of the instruments and collection methods.

In fact, this is one of the most frequent methodological problems to be addressed by an evaluation. How good are the instruments and the data collected? Little evidence of instrumentation or data collection error was apparent during the three-year observation period. The instruments did not change, and the procedures were standardized throughout the state and applied in a consistent fashion in Hale County since 1977. The outcome variable, CSP use, is a straightforward, valid endpoint. Data were of high quality and accuracy. All service users were confirmed as Hale County residents. There were no significant administrative or staffing changes during the study period in Hale County, suggesting a consistency in use of the instrument by CSP personnel and in client data collection. From this evidence, the investigators concluded that instrumentation or data collection error did not represent a plausible explanation for the observed health behavior changes.

Maturation

Participants in the CSP throughout the study were all adult socio-economic characteristics. An examination of the age and racial characteristics of this county and CSP confirmed a high degree of demographic stability. It is unlikely that the observed change was due to any maturational characteristics of the women utilizing the service or the CSP program itself. The Hale County CSP was selected because it had been operational for two years and was considered a 'mature' and stable program. The project had a short duration. As noted, no significant administrative or staffing changes occurred during the study period. A maturation effect represents a highly implausible explanation for the noted behavioral impact.

Testing or Observation

Because the data points examined were unobtrusive measures of behavioral impact, i.e. CSP use, this factor could not be a plausible explanation of the observed change.

Statistical Regression

A concern here is the extent to which an observed change is a statistical artifact, a product of a normal fluctuation in the pattern for the outcome variable. While more women used the service, new users were not significantly different in demographic characteristics than previous users. As indicated in the baseline period, the level and type of new CSP users remained relatively stable during the non-intervention periods. Hale County was selected because it is generally comparable to a number of counties in the south-western section of Alabama, and not because of unusual characteristics or special screening problems. The evidence, therefore, suggested that the observed impact was not a statistical artifact. The increases far exceeded chance variation.

Selection
This factor as a source of main effect is ruled out because the demographic characteristics of those motivated to use the service were highly comparable to new and previous users. The age distributions and racial makeup of the new users were very stable for the treatment and comparison county. Residents of Hale and Marengo Counties, and even more so CSP users, represented a very homogeneous group.

Experimental Mortality
Since the dependent variable of this study was CSP use by new users, attrition by study participants was not an issue. Because of limited resources, the investigators were unable to determine repeat user attrition (missed appointments) during the course of the study period.

CONCLUSION

Because the major alternative explanations for the observed results were able to be ruled out, the investigators concluded that the observed behavior changes in CSP use were produced by the Cancer Communication Programs in the Spring Quarter of 1979. This conclusion was strengthened by the replication of the field experiment under local Extension Service direction in the Spring of 1980. The lack of temporal changes in new user frequency suggested that the above seven factors had limited effect on CSP use throughout the study period. The available evidence also indicated a gradual and predictable pattern of CSP repeat use during non-intervention quarters, plus significant increases in CSP repeat use during the periods when the communication efforts were applied in 1979, 1980, and 1981.

From the evidence presented, the hypothesis that the increases in cancer screening program use in Hale County by new and repeat clients were primarily due to the two interventions, seemed to be supported. A Cancer Communications program, grounded in community health education, communications and behavioral science literature, can motivate high-risk profile females in sparsely populated rural areas to use an available cancer screening program. The data also indicated that 'booster inoculations' of the intervention are necessary, as reflected by the drop in new and repeat users in the non-intervention represent an efficient use of existing resources and expertise. The planning, implementation, and evaluation were conducted without external funding (Windsor et al., 1981a).

Recommendations for Future Program Planning
This study provided good, supportive, but not definitive evidence of impact, (i.e., internal validity). The results do not provide insight into the generality of the intervention, (i.e., external validity). For future studies of this type

which will build on this project, a number of recommendations are made. Methodologically, the use of multiple matched control and treatment counties is needed to provide more definite evidence of the impact of the interventions. This would provide an even stronger degree of support for program impact than that observed. The inclusion of multiple counties would allow for data aggregation, so that a monthly rather than quarterly estimate of CSP use could be used in the impact analysis. This would increase the number of data points, and therefore increase the sensitivity of the time series analytical techniques applied (Glass et al., 1972; Ostrom, 1978).

Not having data available to examine the reasons why these women utilized the service or why others did not, represented a weakness of the completed study. A thorough characterization of the psycho-social factors, relating to utilization of the CSP users, is needed in future work. No resources were available to conduct a pre-post program diffusion survey during the study period.

The design for a proposed multi-county evaluation study is presented in Table 3. A similar design has been used most recently in California by the Stanford Cardiovascular Risk Reduction Study of 1972-1975 (Farquhar et al., 1977). Combinations of different elements of the intervention need to be applied selectively or withheld in pairs of rural counties for a period of six months or more to ascertain more rigorously their impact on CSP use. The design of the proposal being developed will permit the assessment of the effects of TV (X1), TV + radio/print (X1 + X2), TV + radio/print + community organization/group (X1 + X2 + X3), since we do not know what

TABLE 3

Proposed design for cancer communications study
of the behaviorial impact of selected types of mass media

Group	Time 1	Time 2	Time 3
A	O_1	O_2 X_1 X_2 X_3	O_3
B	O_1	O_2 X_1 X_2	O_3
C	O_1	O_2 X_1	O_3
D	O_1	O_2	O_3

O = Community survey - annually
Clinic survey - semi-annually
CSP use - Monthly
Group = Two adjacent counties

X_1 = TV
X_2 = Radio/print
X_3 = Comm. org./group
T - One year period

channels were the most efficient in motivating use. The geography of the state, approximately 400 miles long and 150 miles wide, the existence of 50 CSPs, the presence of four non-overlapping TV coverage areas in the southern half of the state, and the consistently high level of cooperation by the media and community organizations, support the feasibility of the proposed project.

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Dr. Richard Windsor is Associate Professor and Director, Division of Health Education and Behavioral Science, Department of Health Care Organization and Policy, the School of Public Health, and a Research Scientist in the Comprehensive Cancer Center in the University of Alabama in Birmingham. He is also current President of the Society for Public Health Education (SOPHE) in the U.S.

TELEVISION AND ETHICS: THE SUBJECTIVITY OF JUDGEMENT

G.H. Jamieson
University of Liverpool
Liverpool, England

ABSTRACT

To the extent that TV producers and researchers bear responsibility for their work, they are faced with ethical considerations. The province of ethics covers the resolution of decisions about 'right' and 'wrong', and about 'duties' and 'responsibilities'. In the Western tradition of moral philosophy, from Plato onwards, ethics has been viewed in objective terms - that is, as a search for ethical and moral values existing independent of man's consciousness. In this paper the opposite position is taken, namely, that ethics is concerned with subjective evaluations. This leads to a consideration of ethics as an area for negotiation, or one which accepts modification of ethical values through educational influences whether they be overt or covert. Subjective judgements are also modified by contextual considerations, particularly of place and time. We can also notice that information or knowledge gained via media (e.g. television) is judged differently from similar knowledge gained by real life experience, as though the symbolic distancing created by media produces a different framework of judgement. Notwithstanding these considerations, when it is not possible to resolve ethical disagreement by rational methods, then it is the duty (here we have an ethical statement) of the TV producer or researcher to give primacy to the position of his performers/subjects.

INTRODUCTION

Facing the task of discussing the ethics of TV production, whether it be for research purposes or otherwise, is itself an ethical question. It is because we feel that there are issues about responsibilities and duties which need clarification that we bring the issue forward. Ethics is concerned with values - values of right and wrong, of duties and responsibilities. We may ask ourselves: to whom is the TV researcher responsible, to himself or to others? If he is responsible for others, who are these others, his subjects or his ultimate viewing audience, or both? What are the means by which people make ethical judgements, and what standards do they hold? Are standards fixed and undeviating, or are they open to revision? Or is it that certain ethical judgements are open to revision and not others? If ethical judgements are open to modification, how far is it reasonable for the TV producer or researcher to attempt such modification? Does he always need to work from the standards of

his subjects or is it ethically acceptable for him to aim for revision or compromise?

So we could go on putting forward ethical questions. It is an area for discussion which transcends TV production and its study, whether it be research into experimental methodology or into the effects on viewers. In this paper, I shall be taking the hard and seemingly uncompromising position that ethical questions are about subjective and not objective, or absolute values - that it is the social process which gives us our standards. This stance or position frees me from the necessity of evoking Platonic concepts - concepts that affirm that there are absolute or ideal forms of moral values existing independent of man's consciousness.

My position is itself an ethical one, but one which does not posit a 'rightness' out there in the void. Let us be clear what ethics is about; it is about right and wrong, duties and responsibilities. However, we can begin to see here that these are subjective qualities; they do not inhere in situations, but only in the human propensity to evaluate situations. All experience is subjective (Bateson, 1980), and it is our brains that make the evaluations.

The kinds of behaviour to which moral values and disvalues are ascribed are part of the 'furniture of the world': and so are the natural, descriptive differences between them, but not their differences in value. As Mackie (1981) wrote, ". . . if moral values are not objective they are in some very broad sense subjective". This is also my position, which is in direct contrast to the main tradition of European moral philosophy from Plato onwards. In that tradition, moral values are considered objective, and, as such, moral or ethical values have been seen as at once prescriptive and objective.

RELATIVE VALUES

As I see it, the important issue is the relativity of values, and the differences between individuals even in the same or similar situations. People do appraise context, and they do cast their minds forward, via imagination, to the subsequent effect of their actions. This may prescribe what they do in a particular situation, but even so the values are relative, a relativity which may be held covertly.

The impression I appear to be giving is one of instability, of value judgements linked only to the moment, but in practice life is not always like that. Our habits and cultural heritage tend to stabilize our responses and evaluations, so that from one situation to the next there tends to exist a kind of stability of appraisal or judgement. There are ethical or moral

judgements which appear to have universal or absolute validity - that is, not relative to a particular situation; and yet even here we may note degrees of validity. For example, we generally believe that it is wrong to kill, but right (unless one is a conscientious objector) in defence of one's country. In anthropological studies it is possible to gather information about social customs bearing ethical or moral considerations which are quite situation-specific.

The subjectivity of ethical judgements bears some resemblance to aesthetics - that is , that the values do not lie in the product, but in the subjective appraisal of the product. As Bateson (1980) wrote ". . . objects are my creation, and my experience of them is subjective, not objective".

ETHICS, STANDARDS AND CONSTRAINTS

The study of ethics is generally dealt with as an abstract phenomenon, but once we begin to search for relative values we are more in a position to see our problem in pragmatic terms. Once freed from the concept of the absolute, in statistical terms the norm without any deviation, we can begin to focus on relative states, on evaluations in particular instances.

Certain standards may be personal (for example, the many forms of psychophysical judgements that individuals possess) but it is my contention that ethical standards owe their origin to social factors; therefore it is to social factors that we must look for their material source.

The concept of standards can produce conflicts of interest between TV producers and subjects, and such conflicts may produce the need for ethical resolution. There are constraints on both sides, but it is the duty (my ethical evaluation) of the producer to protect the interests of his subjects. One needs to accept, as Mackie (1983) wrote, ". . . that morality is a system of particular sorts of constraints on conduct - ones whose central task is to protect the interests of persons other than the agent, and which present themselves to the agent as checks on his natural inclination or spontaneous tendencies to act".

RESOULTION OF ETHICAL DIFFERENCES

There may be situations where the producer may feel that he is in a negotiating position, a position whereby he has alternative ways for resolving ethical issues. Here we can turn for ideas to the work of Stevenson (1976). He proposed two ways of resolving ethical differences:

(i) by a change in beliefs (rational method); and

(11) by a change in affect or emotion (non-rational method).

The first method revolves around logical argument; whereas the second method involves what Stevenson called persuasion. This, of course, is a restricted use of the term persuasion. It is possible to envisage some rational arguments as being extremely persuasive. However, the important point is that the rational method can, metaphorically speaking, lay itself bare, while the non-rational emotive method can have many concealed, or connotative attachments - the covert possession of values inculcated during the process of socialization.

We can, however, take the issue of the resolution of ethical disagreements in more specific ways. For instance, it is possible to envisage resolution in one of three different ways:

(i) person A can change to conform to person B;
(ii) person B can change to conform to person A;
(iii) both persons A and B agree to compromise.

In reference to those TV production situations where the agent and his subjects are free agents, that is, non-coercive type situations, any of the above ways may be employed to resolve ethical issues. But the ultimate responsibility for achieving resolution is that of the producer. He could, and this would not be unethical, attempt to 'educate' his subjects by the use of rational methods. In doing so, he would be aiming to induce a change in subjective values, thus demonstrating the main point in this paper that ethics is a subjective, not an objective issue.

It is possible to envisage a situation whereby producer and subjects share overlapping areas of agreement, and that resolution of ethical disagreement may only require a partial shift. But here again, when a situation goes unresolved, it is the producer, as the agent, who has the duty to re-align in the direction of his subjects. In practice, of course, it usually transpires that the only way to get things done is for the agent to make the shift.

DEVIATION FROM THE NEWS

In life, as we generally live it, we are not only aware overtly or covertly of ethical norms, but we also carry notions, however vaguely, about the amount of permissible deviation from such norms. In other words, we have a consciousness of the limits or boundaries of acceptable behaviour. And it is through social learning or social experience that we gain knowledge of such boundaries. Generally speaking, it is at the boundaries of acceptability and non-acceptability that conflicts tend to arise; it is here at the blurred or fuzzy edges that dis-

agreement is made manifest.

The conflict over ethical considerations is usually a conflict over culturally acceptable deviations; these are not part of the fabric of the world, but they are generally charged with emotive feelings - a charge which has its origins in a social life regulated by the dominant culture which has the power to press for conformity. However, life is not always static; there is allowance for change, and it is at the borders or boundaries that we first notice them. Changes, there at the periphery, become for most people an acceptable part of life. From this it would follow that the TV producer can expect at least a partial modification, as long as he does not make unreasonable demands. The major problem would be an attack on values held strongly about social life in general, and yet even here there may be individual differences in the acceptance of revised standards.

CONTEXT

Contextual differences provide further need for ethical resolutions. Unless we stand by the concept of absolutes, we are generally faced with coming to terms with what is permissible and not permissible in specific situations. To change the context can change the relations by which subjective evaluations are constructed. We can draw a parallel here with art. A picture gains in prestige when it is placed in a reputable art gallery; the context, in this illustration, has changed, not the object of appraisal (see Malraux, 1974).

The TV producer has two contextual problems:

(i) the context in which he frames his programmes; and
(ii) the context(s) in which his programmes are viewed.

These present the TV producer with a Janus-like problem. Figure 1 illustrates some of the main factors which need ethical consideration. I have also included the interpersonal factors. From the figure it is obvious that ethical considerations grow in relation to the number and variety of people involved.

MEDIATION AND MORALITY

In discussing ethics we need to be careful to distinguish between mediated and real life (non-staged) performances. The difference here appears to be one of intention. Viewers, of film or television, accept the artefactual nature of these media and tend not to infer an intention such as they would in real life situations. This has a carry-over to those programmes which set out 'to capture' real life, for example, newsreels.

Production	Closed-circuit	Broadcast
(i) Producer	(i) Producer	(i) Producer
(ii) Subjects/ Performers	(ii) Subjects/ Performers	(ii) Subjects/ Performers
context and inter-personal ethical considerations	(iii) group(s)	(iii) society sub-cultural groups
	context of viewing and resolution of ethical considerations by small group standards	context of viewing and resolution of ethical considerations by society's standards

FIGURE 1 Factors requiring ethical consideration

The fact that the perceived images are obtained from screened artefacts tends to reduce their impact on the sense of reality. Generally speaking, it is only the more outrageous programmes - programmes which depart from the norm by a number of standard deviations - that receive condemnation, and even here the mouthpieces of condemnation may not reflect accurately the views of all the members of society.

However, when we discuss the making of programmes, we notice a difference between the use of professional actors and non-professionals. Professional actors are rarely taken to behave in real life as they do in their acted roles. The public, in other words, does not invest an intention which goes beyond the performance as a performance. On the other hand, when the non-professional is employed, the intention is generally seen to be different. And yet even here the situation is contrived, contrived by the needs of the mechanics of representation and a choice on the part of the producer, a choice which itself could be ethical, of situation subject, and personnel.

In general, though, any screened representation is judged differently from real life;, it is, as it were, at a distance. We can be shocked without taking too much offence. In fact, a good example of shock through media is the 'Dada' art movement which sprang up in Europe at the end of the first world war. Many 'shocking' art artefacts were deliberately planned, but for the very reason that they were artefacts they failed to have the impact desired by their progenitors.

SUMMARY

In this paper I have been concerned to make the point that ethics concerns subjective values, and that subjective values may differ according to place, time and people. However, when there are differences to be resolved, it is my contention that, short of re-educating his accomplices in the making of programmes, it is the TV producer's central task to protect the interests of the persons for whom he assumes responsibility. I hold to the position that there are no objective values,' out there' as it were, that what we need to account for are subjective values. These reside in the minds of individuals, although they have their bases in man's social connections.

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Dr. Harry Jamieson is the director of the Centre for Communication Studies at the University of Liverpool, England.

LIST OF CONFERENCE PARTICIPANTS

LIST OF DELEGATES

* speaker

ANDREWS, Mrs. Emir	Department of Psychology Memorial University of Newfoundland
* BAGGALEY, Dr. Jon	Institute for Research in Human Abilities Memorial University of Newfoundland
BENNETT, Doris	Department of Education Concordia University Montreal, Quebec
* BERNARD, Dr. Robert	Department of Education Concordia University Montreal, Quebec
BRAFFET, Dr. Ted	Division of Learning Resources Memorial University of Newfoundland
BURKE, Dan	National Film Board Ottawa, Ontario
CALLANAN, Charles	Extension Media Unit Memorial University of Newfoundland
* CAMBRE, Dr. Marjorie	Maryland Instructional Television Maryland State Department of Education
* COLDEVIN, Dr. Gary	Department of Education Concordia University Montreal, Quebec
COURNOYER, Raymond	International Extension Representative Singapore
DAWSON, Mike	CCTV Unit St. Clare's Mercy Hospital
DOHERTY, Hugh	News & Current Affairs CBC-TV St. John's, Newfoundland
* DONSBACH, Dr. Wolfgang	Institut fur Publizistik Johannes-Gutenberg Universitat Mainz, West Germany
* ENGEL, Dr. Douglas J.	International TV Research Information Centre University of Alberta Edmonton, Alberta

FEDORIK, Vera	Enrichment of Catholic Education St. John's, Newfoundland
FIZZARD, Dr. Garfield	Division of Learning Resources Memorial University of Newfoundland
* FLAGG, Dr. Barbara	Center of Research in Children's Television, Harvard University Cambridge, Massachusetts
* FLAY, Dr. Brian	Health Behavior Research Institute University of Southern California Los Angeles, California
* FODOR Dr. George	Community Medicine & Behavioral Sciences, Memorial University of Newfoundland
FONTAGALLAND, Dr. G.	Asian Mass Communication Research & Information Centre (AMIC) Singapore
GAUTHIER, Garreth	Medical AV Services Memorial University of Newfoundland St. John's, Newfoundland
* GREEN, Dr. Barry	Market Research Branch TV Ontario Toronto, Ontario
* HEZEL, Dr. Richard	School of Communication University of Houston Houston, Texas
HOUSE, Dr. Maxwell	Continuing Medical Education & Clinical Affairs Memorial University of Newfoundland
* JAMIESON, Dr. G.H.	Centre for Communication Studies University of Liverpool, England
JONES, Dr. Pauline	Institute for Research in Human Abilities Memorial University of Newfoundland
KENNEDY, Dr. Mary	St. Clare's Mercy Hospital St. John's, Newfoundland
KEUNE, Reinhard	Freidrich Ebert Foundation Bonn, Germany

KUPLOWSKA, Olga	Office of Project Research TV Ontario Toronto, Ontario
LAKE, Harry	Canadian Cancer Society (Nfld.) St. John's, Newfoundland
LANE, Bruce	Division of Learning Resources Memorial University of Newfoundland
LAURENDEAU, Michel	Health & Welfare Canada Program Evaluation Analyst Ottawa, Ontario
LEE, George	Extension Services Memorial University of Newfoundland
LOMAX, Linda	Alberta Education Authority Edmonton, Alberta
* LOMETTI, Dr. Guy	Department of Social Research ABC, Inc. New York, N.Y.
LUBY, Barbara	Health Sciences Centre Memorial University of Newfoundland
MacLEOD-ENGEL, Ms. Nan	International TV Research Information Centre University of Alberta Edmonton, Alberta
* MORRIS, D. Paul	Department of Communications Media University of Calgary Calgary, Alberta
NEALE, Dr. E.R.W.	Vice-President (Academic), Memorial University of Newfoundland
PAULAUSKAS, Stephanie	Department of Education Concordia University Montreal, Quebec
REID, Janet	Division of Learning Resources Memorial University of Newfoundland
* RIDING, Peter	Department of Continuing Education (Television) BBC London, England
ROBERTS, Bryan	New Brunswick Department of Education Fredricton, New Brunswick

ROBERTSON, Dr. Peter	Canadian Cancer Society Toronto, Ontario
SCOTT, Mrs. Andree	Canadian International Development Agency (Institution Cooperation & Development Services Division) Hull, Quebec
SCOTT, Dr. John	School of Graduate Studies Memorial University of Newfoundland
SEALEY, Francis	Open University Milton Keynes, England
SHALLOW, William	Adult & Continuing Education Government of Newfoundland & Labrador St. John's, Newfoundland
SAN MARTIN, Rebeca	Department of Education Concordia University Montreal, Quebec
* SLABY, Dr. Ronald	Center for Research in Children's Television, Harvard University Cambridge, Massachusetts
* SMITH, Kirk	Extension Media Unit Memorial University of Newfoundland
STRONG, William	Newfoundland Lung Association St. John's, Newfoundland
SULLIVAN, Dr. A.M.	Department of Psychology Memorial University of Newfoundland
* VAN VUUREN, Dr. Dan	Human Sciences Research Council Pretoria, South Africa
* VOLLAN, Dr. Clayton	East-West Communication Institute Honolulu, Hawaii
* WINDSOR, Dr. Richard	Division of Health Education-Health Behavior, University of Alabama Birmingham, Alabama
WINSOR, Susan	Department of Education Concordia University Montreal, Quebec
YUXU, Kin-Fu	Journalism Department Fudan University Shanghai, China